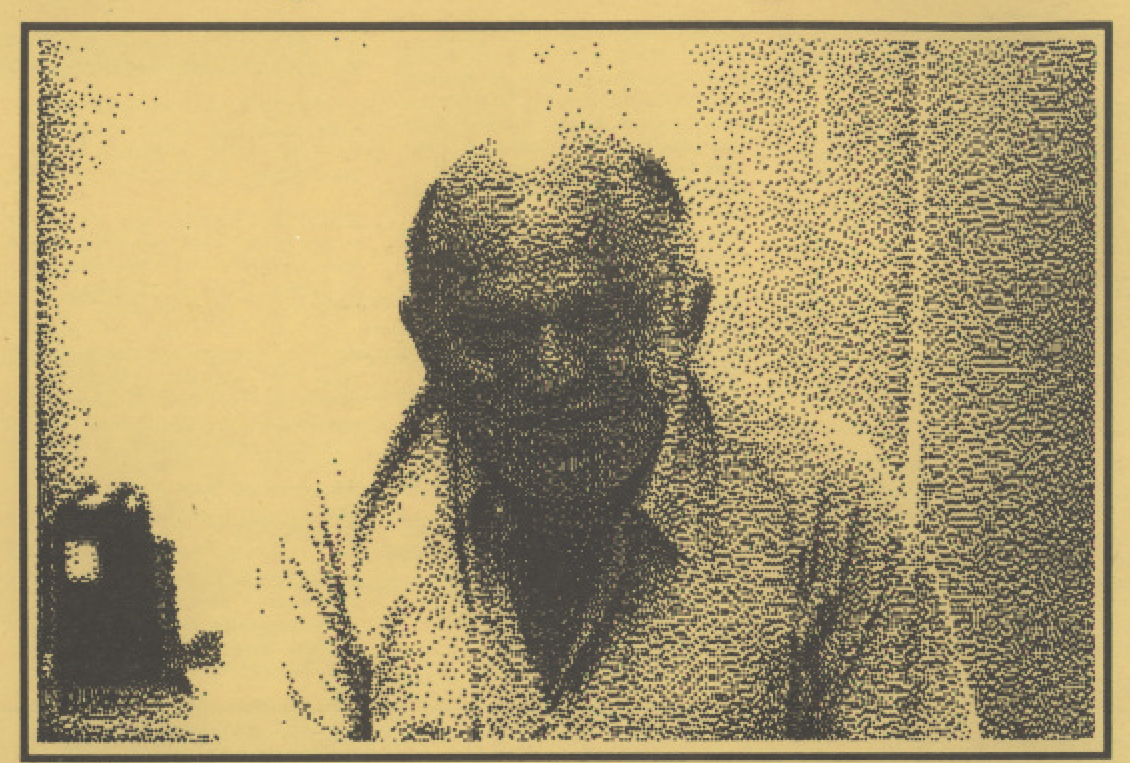
# Sorry, no computers



## but I can sell you a hard disk drive

*Luckily there are still some folks supporting your Atari so don't give up*
*Page 6 supports your Atari with the world's oldest and best dedicated magazine ...*
*as well as the world's best PD library ....*
*as well as providing commercial software ...*

**Don't be like the guy above**
**return the favour**

## *Keep supporting Page 6*

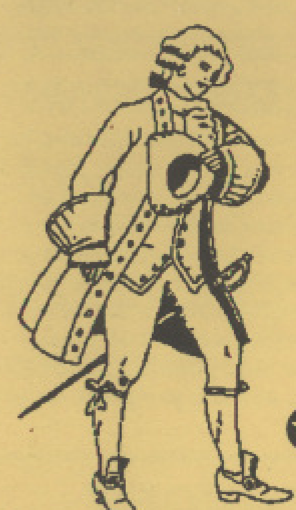
*Page 6 Publishing's*

# NEW ATARI USER

*The Resource for the ATARI CLASSIC and the ATARI ST*

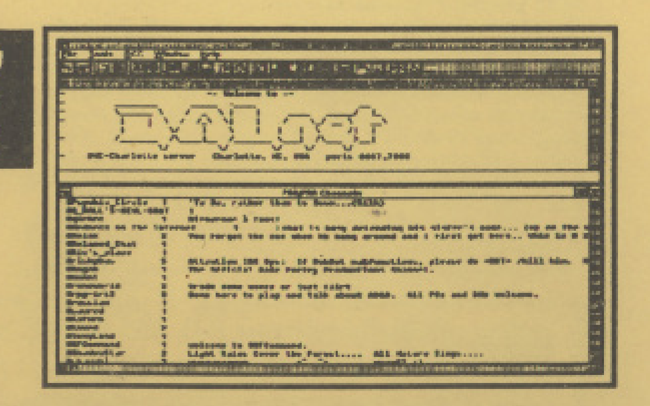
Issue 78 - September/October 1996 £2.50

## FOR THE ATARI CLASSIC



- ***THROWING A WOBBLER***
  **Some new graphics effects**
- ***MOTIVATION***
  **A routine to really motivate you with Player-Missile Graphics**
- ***XL v ST***
  **An 8-bit user buys an ST!**

## THE WIDER SCENE



**REAL TIME CHAT ON THE INTERNET**

PLUS ... THE TIPSTER ... TEXTPRO MACROS ...TURBO TIPS ... ATARI'S FUTURE ... ST PUBLIC DOMAIN

# This issue's ....

## Thanks

**Les Ellingham** puts it all together and fills up the gaps but the real thanks goes to the following who made this issue possible

**Sandy Ellingham** who takes care of all the office work, advertising and mail order

*For their regular contributions*

**John S Davison**
**Paul Rixon**
**Ann O'Driscoll**
**Allan J. Palmer**
**Stuart Murray**

*For their contributions this issue*

**Andy Guillaume**
**Miguel Letemplier**
**C Ayres**
**Frank Walters**
**James Mathrick**
**John Foskett**
**Robert de Letter**
**Daniel Yelland**
**Graeme Fenwick**
**Kevin Cooke**
**Joel Goodwin**

## APOLOGIES

I am still extremely poor in acknowledging contributions so I apologise to everyone who has sent in stuff and thought it has gone through the wormhole. The intention to reply to everyone is there but the time seems to drift by. If you have not heard, thank you and keep watching the mag, you might be surprised.

## HOW IT'S DONE

PAGE 6 shows just what you can do with your Atari. NEW ATARI USER has always been created entirely with Atari equipment, initially on the XL but more lately with a Mega ST and other stuff, who needs PC's or Macs! Hardware includes a Mega ST2 (upgraded to 4Mb), SM125 Monitor, Supra 30Mb Hard Disk, a HP Laserjet III, Citizen 124D printer, Philips CM8833 monitor, 130XE, a couple of 1050 disk drives, 850 interface, NEC 8023 printer. Principal software used is Protext and Fleet Street Publisher 3.0. Other software includes Kermit, TariTalk, Turbo Basic and various custom written programs on the XL/XE. Articles submitted on XL/XE disks are transferred across to the ST via TARITALK. Programs are coded on the XE and printed out directly for pasting in after the typesetting is completed. All major editing is done with Protext and pages are laid out with Fleet Street Publisher. Each page is output directly from Fleet Street to a HP Laserjet III which produces finished pages exactly as you see them. All that is left is to drop in the listings and photos.

Well, it's not quite as easy as that but you get the idea!

## Inspiration

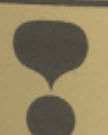
*After a long bleak period, some new music at last but not what you might expect. On holiday in Dorset last month we discovered a shop that sold gemstones and minerals and Native American jewellery. They also had several quite obscure CD's of music that embraced the Native American culture (in a similar vein to Sacred Spirit) and a listen to a couple meant that the holiday spending money had to be sacrificed. The first is called The Music of the Grand Canyon by Nicholas Gunn and is inspired by a long visit to the Grand Canyon. Many people would call it 'New Age' but it is much more that just 'relaxation music'. In fact, totally excellent. The other is Dream Song by The Little Wolf Band, based much more on spiritual chants but quite modern. One of the singers appears to be Rita Coolidge's daughter (or sister?) and Robbie Robertson is credited. Another excellent one with one track that goes straight into my all time favourite top ten. What a joy to discover some new music and actually be able to buy it!*

## CONTRIBUTIONS

***Without contributions from its readers, NEW ATARI USER would not be possible. PAGE 6 welcomes and encourages its readers to submit, articles, programs and reviews for publication. Programs must be submitted on disk or cassette, articles should wherever possible be submitted as text files on disk. We seek to encourage your participation and do not have strict rules for submissions. If something interests you, write a program or article and submit it!***

## COPYRIGHT





*Editorial address:* P.O. Box 54, Stafford, ST16 1DR, ENGLAND Tel. 01785 241153
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**PAGE 6 PUBLISHING's NEW ATARI USER**

**'The Magazine for the Dedicated Atari User'**

**ISSN No. 0958-7705**

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**A disk containing all of the 8-bit programs from each issue of NEW ATARI USER is available either separately or on subscription. Single price £2.95 per disk, a disk subscription saves you almost £8 a year. Subscription rates (6 issues)**

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# Editorial

Sometimes when I sit down to write the editorial - usually the last thing to do - there are burning issues to raise or obvious matters to talk about. Other times I have to think hard about what to say. This is one of those times!

Over the past couple of months things have ticked over quite satisfactorily. Renewals have come in, there have been a few contributions and the regular correspondence but no nasty surprises! One thing that could be better is the orders we have had for the PD Library, but then we have had very little new stuff and it is all becoming extremely hard to find. If anyone has any public domain material we haven't used before, please send it in as the PD library continues to be a major support for the magazine.

Contributions come in from regular supporters like John Foskett, James Mathrick, Andy Guillaume and others to whom I apologise for omitting (haven't heard from Ann for some time!) but, of course, we still need more. If you have any interesting programs or ideas for articles, please have a go at writing them up. We can't guarantee that it will be used but there is a pretty good chance that anything sent in will find its way into the magazine. What we could really do with is more software reviews since with so little new software being released it is becoming very difficult to find anything to review. If you have some software that is still available (for example from Micro Discount) and we haven't reviewed it, please write a review so that other owners can find some new software. If you have bought something recently from an obscure source, you could review that and let us know where you got it from.

Let's get right up to date and talk about the Internet. As you will know the Internet and the World Wide Web is something that I have mixed feelings about but I keep finding out about specialist pages (like Arthur C Clarke and The Incredible String Band!) that I would just love to access and, for a while, I get a strong desire to join in. The trouble is, the Internet is a bit like a credit card - loads of goodies that don't cost anything, until you get the bill at the end of the month! Over the years I have become extremely wary of anything that doesn't have the price up front. I have had some nasty shocks from time to time! In truth I would love to dabble with the Internet but then again I would love to go to Disneyworld but I can't afford either. For the time being the Internet is like the Holiday program - loads of wonderful locations that only other people can afford. If you are able to join in, I wish you luck and lots of enjoyment with your surfing time.

*Les Ellingham*

# Mailbag



## THE SAGA CONTINUES

*Allan was on holiday in August and so was I so the necessary transfer of paper from here to there didn't happen again. So it's me once again putting it together but it's you who supply all the interesting letters so skip this bit and read the column, ready to be spurred into putting your own pen to paper or fingers to keyboard for next time.*

**Les Ellingham**

## DISAPPOINTMENT AT AMS

*Our first letter comes from Deborah Clarke who lives in Bourne in Lincolnshire and she opens with a matter close to home:* "This is the first time of writing to you for me although I have been a reader of your magazine for the last five years. There are two subjects that I want to write about.

Firstly disappointment at the lack of support for the Lincolnshire AMS. After several years of driving over to Stafford for the show, some distance for us, we were rather pleased at the chance of a more local show, however we were extremely disappointed to find only two Atari 8-bit stands. It didn't take us long to look at everything on display so it was quite a short visit. Why did others think it not worth the effort of attending? Surely the publicity from any show is helpful?

On a more positive note I have recently started to use the Internet and have managed to find some really useful stuff out there. We have been trying to beat Ultima III for about the last two years but had come to a stop due to lack of ideas. I was very surprised to find loads of information on all the Ultimas on the Internet, primarily from the USA. I printed off quite a few articles including a 'Walkway through Ultima III' and several hints pages. We've tried them out and made huge progress - not cheating too much though! I intend to keep looking for more good old 8-bit stuff and was pleased to find that there is still support out there!"

*It's a shame that you were disappointed with the Spring AMS, Deborah, but at least you got to see a couple of Atari supporters. I didn't think that there would be any there. The problem is that Lincolnshire is perceived by many to be a bit 'out in the sticks' and many of us wondered what sort of attendance there would be at the event. With extra petrol costs and added journey time and no indication of the likely attendance many of us thought it not worthwhile. Whilst the Bingley Hall is hardly the easiest place to get to, especially if you don't have a car, Stafford itself is quite central and easily accessible from all parts of the country and so the attendance seems to be quite high from both the public and exhibitors.*

*As regards the Internet, this really seems to be taking off with 8-bit folk, so I hope that anyone who finds interesting material regarding the Atari will report it to us so that we can share the information with other readers.*

## A MIXED BAG

*Joel Goodwin is a regular contributor and correspondent and here comments on several things from recent issues:* "In response to James Martin's question about Sega joypads (Mailbag, issue 77) I can confirm the joypads are fully compatible with the Atari 8-bit computers. The button 'B' acts as the trigger. I have not been able to read the 'A' or 'START' buttons but the 'C' button has a peculiar effect on the paddle values (I do not recall what it is precisely).

I would like to point out that my program Matchbox (disk bonus, issue 76) was originally intended to be played in Basic. The bonus side of the issue disk automatically loads Turbo Basic so the gameplay and sound effects are too fast. This may seem like a minor point but the game was intended to have a 'sedate' feel and the faster speed works against it.

In John Foskett's article Character Set Copier and Redefiner (issue 77), a fast method for redefining the character set is presented. The method is limited to a maximum of 32 characters. If anyone is interested in redefining more than 32 characters at a time then I would recommend they load the character set from cassette or disk. This is more efficient in the sense that the character set is not in memory twice at any one time (e.g. such as in strings or DATA statements and the character set memory) and is quicker than reading from DATA statements. The drawback is that you will need slightly different versions for cassette and disk.

Lastly, just to clear up any inadvertent confusion I may have caused, contrary to Avram Dumitrescu's article Please Release Me (issue 77), Adam Billyard did not inform me that he has games which are as yet unreleased."

*I apologise for presenting Matchbox in a form that was not originally intended but I really did not notice any difference in play and as the other program on the disk needed Turbo, it seemed sensible to boot up the menu using Turbo. I have just looked at the program again using both Turbo and normal Basic and think that you might be worrying unnecessarily, as the pauses you have put in make the program perfectly playable. In fact, I prefer the slightly 'zippier' feel of the Turbo version. I doubt that anyone else would have noticed but, nevertheless, the program should have been presented as intended. If anyone wants to run Matchbox from Basic, just use the menu on side 1 of the disk to 'Go To Basic', flip the disk and type in RUN "D:MATCHBOX.BAS".*

## TECHNICAL STUFF

*Our plea last issue for readers to write in as soon as they can certainly spurred Mike Balderstone into action. He received his issue 77 at lunchtime and dashed this letter off the very same day! Mike's main topic addresses the technical side of things:* "Yes, Brad Rogers, I'm sure that there is enough interest in interfacing PC hard disks, and 3.5" floppy drives, with 800XL's and 130XE's to be worth publishing all available details, and prices if known. There must be hundreds of PC hard disks of less than 100MB and 720k 3.5" drives (not to mention 5.25" drives) which are on the second-hand market because PC owners have updated their systems.

We also need to know exact-



ly which types of each sort of drive to look for at the many computer/ham radio fairs about the country, and how to identify them. If what Brad appears to be saying (i.e. that these interface devices can handle more than one drive at a time) then it could really be the answer to our prayers. Imagine your 800XL hooked up to a 50Mb hard disk, a 720K 3.5" and a 5.25" drive all at once! What about CD ROM and WORM drives!!!

Seriously, I for one would like to see more technical details of some of these possibilities, for I suspect that while most of us cannot sort out the complexities of disk drives, there must be many of us who, like myself, work in electronics or allied trades and are perfectly competent to make up cables, assemble printed circuit boards from kits or parts or even PCB plus parts list, and fit disk drives and power units into a perfectly proper and safe housing. Of course, I realise that a magazine such as P6 (sorry, NAU) must carry dire warnings about such activities, and nobody who is not fully competent should mess about with mains voltages; nevertheless, there is a lot of pleasure and satisfaction the be had from this aspect of our hobby.

Many of the articles and letters in recent issues have led me to wonder if the popularly perceived gulf between and Atari 8-bit system and the earlier versions of the PC is as great as we have come to believe. For example, just how close is an Atari DOS 2.0 single sided single density disk to an MS-DOS single sided single density disk, and are they cross-readable? We only need a real PC interface expert to answer a few questions of this nature, and to supply interface circuit basic details, and I am sure that firms like Micro Discount will be pleased to supply finished interfaces or even kits for those unable or unwilling to construct their own. Whatever happened to Len Golding?

I acquired around Christmas a second-hand IBM PS/2 55SX (386), which has only a 30MB hard disk and a 4MB extended RAM, which I'm told isn't even enough for Windows 3.1; but then I'm not sure that I even want to spend the money to try (for certain, in vain!) to keep up with the PC world. My main interest in computers, and what first got me hooked, is the challenge of programming; and apart from the convenience of word processing, spreadsheets, and similar useful applications, this remains my main interest.

I would like to be able to work at 8-bit tasks on the PC, if only to use those odd moments and breaks at work, as now with this letter, but it needs the ability to transfer at least unformatted text files between Atari and PC, and between 5.25" and 3.5" disks, particularly if Les is to use them for the mag. Before I lash out real money on PCXformer etc. I want to find out precisely whether it will do this, and if it will allow my grandsons to play all those games off the P6 issue disks, before starting them on programming or whatever takes their fancy.

It looks as if in the PC world at least, BASIC in its newer forms such as QBASIC and Visual Basic is becoming an important language for programming (or "customising") within applications, so all the hours spent struggling with any version should be to some advantage, in spite of those who have in the past decried it. I have found it relatively easy to translate and move relatively complex programs of the "Input data:Calculate results: Print Output" type between Atari 8-bit, BBC-B and PC standards; the only tedious part being the inability to transfer files rather than retype them.

So far I have totally failed to find any sort of PC magazine which caters for my sort of interests as outlined above, unless any reader can help? Perhaps Les might start a PC section with an emphasis on programming to make the most of popular applications, like PCXformer?"

*Thanks, Mike, for some interesting comments which might spur some debate from other readers. I have never really seen the need for any interaction between the 8-bit and the PC, having never had access to a PC, but I am beginning to be convinced that there could be quite a wide interest in such matters, especially as many people now seem to have access to a PC at work. If anyone wants to start up a column on 'PC matters' please let me know. One small point that many readers might like to know is that I can accept articles and letters on 3.5" disk formatted with MS-DOS provided that the disks are formatted in 720k density (is this single density on the PC?) and not in high density. Anything submitted on 5.25" disk is transferred over to the ST anyway and submissions on 3.5" disks save a little time. Keep it to text only though, as I can't transfer programs back to the 8-bit.*



## TO PD OR NOT TO PD?

*Not a great deal of response to the idea of making commercial software available in the public domain but our first letter comes from Kevin Cooke who has the following to say:*

"In response to Brad Rogers and Les's debate over making commercial software into PD - there are so many problems which would first need to be discussed at great length. Firstly comes the legal argument. Although the programs may not be currently available, the fact remains that it is still someone's copyrighted software. If people want it enough to copy it, then surely there IS a market, albeit tiny compared to today's PC markets.

We then have the question of which software can be copied and which is "out of bounds". Who would decide this? who says that the software is definitely not being sold somewhere and that copying it will not deprive someone of the profit that they deserve for supporting the 8-bit? For example Derek Fern, Richard Gore, Page 6 etc. have all, at some time or another, found stocks of "unavailable software". Then we have the question of who would distribute this software. A business supporting the 8-bit could not do so in case of any legal action and so the task would be left to normal users. But, let's face it, if a game has been unavailable and people wanted it, many users would have already copied it anyway. Pirates do not require an "official approval" to copy things - if they want the software they copy it anyway.

Another problem is that, if people can get "free" older software (much of which is still very good), how long before they stop buying new software? And if people can copy older software, how long before they start to copy new software as well? Don't get me wrong, I'm not necessarily against the idea of copying older software but I can seen some big problems with the idea."

*Some interesting thoughts from Kevin here but I feel that making older software freely available will help to support those currently selling software rather than harming them. Why? Well, 10 years ago several hundred pieces of software a year were being released and there was enough variety to satisfy any owner, there was always something you hadn't tried if you fancied a new piece of software and very few people*



*(if any) had every piece of software available. Nowadays with only a handful of new programs a year it is perfectly possible to own everything currently available and still want more. When you get to the stage that there is nothing more you can buy, you start to get bored and perhaps move onto other things, like a PC? Every time someone moves away from the Atari there is one less customer for whatever new software might come along next year. If hundreds of 'obsolete' programs were to become available on the PD scene then this might encourage people to stick with the 8-bit and therefore remain potential customers for future new releases. Who loses?*

*How about another view, this time from James Austin who says:* "As to whether commercial software should become PD ... yes! PROVIDING it is not available from any other source. This should exclude any new software and software still available from places such as Micro Discount and DGS. This proposal could prove useful in reviving sources of long-lost software but should not be allowed to become a piracy free-for-all if it is introduced. If it is, the losers would be everybody in the Atari scene. The last thing we want to do is close down the few remaining Atari retailers."

*You know, this is a subject ideally suited for discussion on the Internet, maybe it already is? Almost all of the companies or individuals who own the rights of 'obsolete' Atari software could be contacted by someone, somewhere, on the Internet and could post written permission for free use of their software on a special page. Does anyone know if this happens on any of the various Atari forums, or how about someone raising the topic for discussion?*

## MORE ON JOYPADS

*Kevin Cooke also confirmed that the Sega Joypad can be used with the Atari, in much the same way as Joel Goodwin, but also recommended the Cheetah Bollistick (which we reviewed some time ago). He has two and say they have given great service.*

*James Austin also says that the Sega joypads work but says to be careful not to force the joystick connector into the ports as the connectors only have small holes and do not push fully into the ports. James also says that, theoretically, the little known Sega mouse could also be used with an Atari and wonders if anyone has tried it.*

*Finally, Daniel Yelland form Stafford says that he owns a MegaDrive as well as his Atari and he uses the MegaDrive joystick for both machines. The 'B' button is again the fire button.*

## TEXTPRO

*James Austin from Sittingbourne in Kent has some information that might be of use to those of you who are following our TextPRO series:* "Regarding the TextPRO Macros series currently running in the magazine I give here updated information on the macro commands featured in part 2 of the series in Issue 77. May I also inform you that TextPRO is indeed PD. Regarding the information in Current Notes, the 'shareware' aspect of the program is that the author doesn't distribute the program except to registered users. These users are, however, allowed to distribute it freely to everyone else.

Version 5.0 of TextPRO has several changes in its macro commands from version 4.56XE macro system, which is currently being covered in the magazine.

There is supposed to be a change in the function of the [ESC]<[CONTROL]_[M]> macro key but the documentation on version 5 doesn't say exactly what it is! The other major change is with the [ESC]<[CONTROL]_[P]> macro key. This macro key in version 4.56XE and earlier versions was used only prior to CONTROL_Y load command. In version 5.0 this key is used to perform selective branching of a macro when certain logical conditions are met.

When used prior to the load command it behaves as it did in earlier versions, branching immediately to the pre-selected macro key in the newly load macro. When used prior to the 'ASK Y/N' command ([ESC]<[CONTROL]_[A]>) it will branch to the pre-selected key if the answer is negative. If there is no pre-selected key the macro will terminate. When used prior to a load (CONTROL_L) command the macro will branch to the pre-selected key if there is an incomplete load, in other words if the message "Links Active" comes up on the command line after loading. When used prior to a delete (CONTROL_D) or find (CONTROL_F) operation the macro will branch to the pre-selected key if the string is "Not Found".

I am just sending this info in to try to complete the picture regarding the macro system in later TextPRO versions and also to help anyone who is finding that version 5.0 is not behaving exactly as it should do after trying the samples in the articles.

Has anyone got information on version 5.2, or indeed a copy of it?"

*And yet again we reach the end of another Mailbag. Please keep your letters coming in response to this issue and start raising some new topics. Don't let all the interesting stuff get lost on the Internet, there are still a lot of us who don't have access.*

## WRITE TO US!

Air you views on all things Atari or help your fellow users with their queries. Say something controversial, or helpful, but above all say it in writing to the Atari world. The address is alongside. Do it now!

**MAILBAG**
**NEW ATARI USER**
**P.O. BOX 54**
**STAFFORD**
**ST16 1TB**





# THROWING A WOBBLER

## *More great programming tricks from Andy Guillaume*

Oh, No. Somebody's switched my monitor stand for a plate of jelly! It must be those pesky Aliens again - they've probably come from Comet Hyakauke. Time to call "you know who". Wait a minute (Alien Warfleet False Alarm), it's only my Wobbly screen demo!

This is a version of the Wavy-screen effect as seen in many European demos. This one is very simple, intended only to demonstrate the method, but it looks quite nice all the same. The effect here takes place on your normal GR.0 editing screen, so you can type in, list programs or even do a Disk directory while the screen moves around (in a similar way to my BOUNCE program from NAU #65).

Type in the main program and SAVE it as "WOBBLER.BAS". If you RUN this now, you will get an ERROR- 6 ?DATA AT LINE 160. This is because you must provide some more DATA for the effect. Now do a NEW and type in any (or all) of the effect routines. These give different styles to the movement. Save each in LIST format i.e. LIST "D:SINEWAVE.WOB" and Re-load the main program. Next merge in the required effect routine, e.g. ENTER "D:SINEWAVE.WOB", and RUN!!

## HOW IT WORKS

A New Display List (DL) is created by the program (lines 90-130). This consists of two 112's for 16 blank lines at the top of the display. Then a 112+128 which sets the first DLI call on the next blank line. Next comes a list of 24 (one for each GR.0 line) sets of three bytes. The first byte sets GR.0, Load memory scan, Horizontal scroll (i.e. 2+64+16=82), and DLI enable (+128). The next two specify the address for the screen data per line. After these the 65 means Wait for VBLANK and then comes the address for the New DL, NDL.

The DLI is called on each line and sets the scroll register from a set of data stored at SCT. Each time the VBI runs (after each screen frame has been displayed) the data at SCT is moved down a byte so that the movement is transferred down the screen a line at a time. The new value for the scroll register at the top line of the display is taken from the effect routine DATA statements (you can see this in the Assembler listing).

The program itself is pretty self-explanatory.

```
EX 1 REM ################################
VQ 2 REM #           WOBBLER            #
SG 3 REM #      by Andy Guillaume       #
HB 4 REM # ---------------------------- #
EY 5 REM #   NEW ATARI USER - SEP 96    #
FC 6 REM ################################
AY 10 REM
SD 45 REM  Setup Pointers
AG 50 NDL=45056:DLI=$061D:VBI=$0633
MX 60 CLINE=$0600:TMR=$0601:RTME=$0602:CU
   R=$0603:MAX=$0604:SCT=$0605:DAT=$0670
WA 65 REM  Poke in DLI and VBI code
XL 70 RESTORE 1010:FOR N=DLI TO DAT-%1:RE
   AD B:POKE N,B:NEXT N
BI 75 REM  Setup GR Mode 0
FZ 80 GRAPHICS %0:SCN=DPEEK(88):POKE 731,
   %1
MN 85 REM  Make new Display List
LV 90 POKE NDL,112:POKE NDL+%1,112:POKE N
   DL+%2,240:PP=NDL+%3
YL 100 FOR N=%0 TO 23
GX 110   POKE PP,82+128:DPOKE PP+%1,SCN-%
   2:PP=PP+%3:SCN=SCN+40
HT 120 NEXT N
WW 130 POKE PP,65:DPOKE PP+%1,NDL
RQ 135 REM  Initialise Variables
IU 140 POKE CLINE,%0:POKE TMR,%1:POKE RTM
   E,%1:POKE CUR,%0
RZ 150 POKE MAX,40
ML 155 REM  Poke in DATA table
NW 160 RESTORE 2010:FOR N=DAT TO DAT+PEEK
   (MAX)-%1:READ B:POKE N,B:NEXT N
AL 165 REM  Start WOBBLING!!
ZC 170 DPOKE 546,VBI:DPOKE 512,DLI:POKE 5
   4286,192:DPOKE 560,NDL
DH 1000 REM  DLI & VBI Code
GN 1010 DATA 72,138,72,174,0,6,189,5,6,14
   1,10,212,141,4,212,238,0,6,104,170
UF 1020 DATA 104,64,72,138,72,169,0,141,0
   ,6,206,1,6,208,42,173,2,6,141,1
TR 1030 DATA 6,162,22,189,5,6,157,6,6,202
   ,16,247,174,3,6,189,112,6,141,5
DP 1040 DATA 6,238,3,6,173,3,6,205,4,6,20
   8,5,169,0,141,3,6,104,170,104
FC 1050 DATA 76,226,192
```

Underline = INVERSE CHARACTERS · [ ] = CONTROL + CHARACTER · < > = INVERSE CONTROL + CHARACTER

Because of the interference between the Key-Click and the WSYNC timing, I've turned off the Key-Click at line 80 (location 731). The screen and DL is Setup as described above. CLINE and CUR are reset at line 140. To alter the speed of the effect, change RTME to the required value, with a 1 meaning every VBI (also line 140). The number of DATA bytes in the effect routine is set with MAX at line 150. Notice that the effect routines change line 150 to give the correct number of bytes.

The first screen location is subtracted by 2 (line 110) to give as normal a look as possible to the screen. This is due to the scroll register moving data ONTO the screen as it is increased from 0 to 8, so the offset shifts the data (when at 0) into a visible area. Also the value of the Left-Margin (location 82) is important. At default, 2, the screen looks OK. Poke it with 0 and you will see the screen move off into the offset 2 bytes mentioned above, and these two move onto the end of the previous line! Like I said, it only looks good because this Left-Margin gap is what is scrolled onto the end of the previous line, leaving it blank. The two lower case p's you can see being scrolled onto the end of the last line of the display are the data stored above the screen display. These are locations 49152 and 49153 which you can't alter due to them being in the OS-ROM! You could alter the DL to look to any part of the memory though.

You can put 9's into the data bytes for the effect but you will see the right-hand end pixel of one line appear at the start of the next. Any number above 9 seems to somehow alter the mode line displayed and usually results in a crash! I think this is something to

```
XJ 150 POKE MAX,160
GA 2000 REM  WOBBLE
WJ 2010 DATA 4,5,6,7,7,8,7,7,6,5,4,2,1,0,
   0,0,0,0,1,2,4
XF 2020 DATA 4,5,6,6,7,7,7,6,6,5,4,2,1,1,
   0,0,0,1,1,2,4
DN 2030 DATA 4,4,5,6,6,7,6,6,5,4,4,3,2,1,
   1,1,1,1,2,3,4
CV 2040 DATA 4,4,5,6,6,6,6,6,5,4,4,3,2,1,
   1,1,1,1,2,3,4
HP 2050 DATA 4,4,5,5,5,6,5,5,5,4,4,3,2,2,
   2,2,2,2,2,3,4
IL 2060 DATA 4,4,4,5,5,5,5,5,4,4,4,3,3,2,
   2,2,2,2,3,3,4
NF 2070 DATA 4,4,4,4,4,5,4,4,4,4,4,3,3,3,
   3,3,3,3,3,3,4
AS 2080 DATA 4,4,4,4,4,4,4,4,4,4,4,4,4,4,
   4,4,4,4,4,4,4
```

**WOBBLE.WOB**

```
VS 150 POKE MAX,112
PR 2000 REM  RIPPLE
GB 2010 DATA 4,4,4,4,4,4,4,4,4,4,4,4,4,4,
   4,4,4,4,4,4,4,4,4,4
GE 2020 DATA 4,4,4,4,4,4,4,4,4,4,4,4,4,4,
   4,4,4,4,4,4,4,4,4,4
GH 2030 DATA 4,4,4,4,4,4,4,4,4,4,4,4,4,4,
   4,4,4,4,4,4,4,4,4,4
WU 2040 DATA 4,4,5,6,6,7,7,7,8,8,8,8,8,7,
   7,7,6,6,5,4,4,3,3,2,1,1,1,0,0,0,0,0,0,
   0,1,1,1,2,3,3
```

**RIPPLE.WOB**

```
RZ 150 POKE MAX,40
PR 2000 REM  SINEWAVE
WL 2010 DATA 4,4,5,6,6,7,7,7,8,8,8,8,8,7,
   7,7,6,6,5,4,4,3,3,2,1,1,1,0,0,0,0,0,0,
   0,1,1,1,2,3,3
```

**SINEWAVE.WOB**

```
UD 150 POKE MAX,80
MU 2000 REM  SMOOTHER SINE
IZ 2010 DATA 4,4,4,5,5,5,6,6,6,6,7,7,7,7,
   7,7,8,8,8,8,8,8,8,8,8,7,7,7,7,7,7,6,6,
   6,6,5,5,5,4,4,4,3,3,3,3,2,2,2,1,1
LC 2020 DATA 1,1,1,0,0,0,0,0,0,0,0,0,0,0,
   0,0,0,0,1,1,1,1,1,2,2,2,3,3,3,3,4
```

**SMOOTHER.WOB**

```
YU 150 POKE MAX,79
PO 2000 REM  BLIP
BP 2010 DATA 8,8,8,8,8,8,8,8,8,8,8,8,8,8,
   8,8,8,8,8,8,8,8,8,8
BS 2020 DATA 8,8,8,8,8,8,8,8,8,8,8,8,8,8,
   8,8,8,8,8,8,8,8,8,8
BV 2030 DATA 8,8,8,8,8,8,8,8,8,8,8,8,8,8,
   8,8,8,8,8,8,8,8,8,8
HA 2040 DATA 6,4,2,0,2,4,6
```

**BLIP.WOB**

```
TV 150 POKE MAX,16
LX 2000 REM  TRIANGLES
WF 2010 DATA 8,7,6,5,4,3,2,1,0,1,2,3,4,5,
   6,7
```

**TRIANGLE.WOB**

# THE WOBBLE EFFECTS

*Save these in LIST format, LOAD main program and ENTER the effect desired before RUNning*



do with the width of colour-clocks acted upon by the scroll register in each particular mode. Set too high a value in a particular mode and ANTIC can't cope.

It's easy to see how to create other effects using the same DLI but a different VBI, by altering the way that the VBI manipulates the scroll data. You could make the DLI load new screen addresses (from a table in the same way as the scroll data) into the DL each time and change these within the VBI as well, to give a wider range of movement across the screen.

## THE WOB FILES

The individual effect routines are given as type-in listings and are also on this issue's disk. They are as follows:

**SINEWAVE.WOB** - Quite obvious really!

**SMOOTHER.WOB** - A smoother Sinewave.

**TRIANGLE.WOB** - Triangle waveform. Try changing RTME to slow it down a bit.

**RIPPLE.WOB** - Lines 2010-2030 keep the lines at a central position. Line 2040 then cause a Sinewave.

**BLIP.WOB** - Lines 2010-2030 keep the lines at the right-hand limit. Line 2040 puts a quick triangle wave in.

**WOBBLE.WOB** - Gives a Sinewave motion that starts with a large amplitude and gets smaller.

## THE ASSEMBLER LISTING

Only two small routines are required, a Display List Interrupt (DLI) to set the scroll register as required per line and a Vertical Blank Interrupt (VBI) to update these values. Equates used are XITVBI which gives the point to jump to after your VBI is finished, WYSNC which is used to make the change in the scroll register at the END of the current screen line and HSCROL which is the Hardware Scroll register. The code starts at 1536 - Page 6 as ever - with the first lines reserving some bytes for the variables used within the routine and the table of scroll values (24 bytes i.e. 0 to 23). The DATA for the effect routine will be stored after the code routines, so DATA is set at line 580. You only use this as a pointer so only one byte is reserved.

## THE DLI

The first thing that any DLI should do is to save any CPU Registers (A, X or Y) that will be used within the routine. Push these to the Stack as on lines 160-180. The DLI is called on every screen line, 24 for GR.0, so the first thing it has to do is determine which line it's been called on. This is where CLINE (Current screen Line) comes in. This is used as an index into the table of scroll bytes at SCT, the required value being loaded into the X register. After the byte is retrieved it is first stored at WSYNC to force the processor to wait until the end of the current scan line before proceeding with the next instruction. If you look carefully at any Inverse blocks on the screen while the routine is running you can see where the top pixel line lags behind, due to each GR.0 line consisting of eight scan lines and the WSYNC effect acting upon the top

```
10 ;WOBBLER
20 ;By Andy Guillaume
30 ;March 1996 for NAU
40 ;
50 XITVBI=49378     ;VBI Exit to OS
60 WSYNC=54282      ;Wait for SYNC reg
70 HSCROL=54276     ;Horiz Scroll reg
80  *=1536
90 CLINE *=*+1      ;Line counter
0100 TIMER *=*+1    ;VBI Timer Counter
0110 RTIME *=*+1    ;VBI Timer Reset
0120 CURRENT *=*+1  ;Pointer into DATA
0130 MAXIMUM *=*+1  ;Number of DATA
0140 SCT *=*+24     ;Scroll table
0150 DLI
0160  PHA           ;Push A
0170  TXA           ;X into A
0180  PHA           ;Push A
0190  LDX CLINE     ;Get line number
0200  LDA SCT,X     ;Get scroll byte
0210  STA WSYNC     ;Wait for SYNC
0220  STA HSCROL    ;Update scroll reg
0230  INC CLINE     ;Next line
0240  PLA           ;Pull A
0250  TAX           ;A into X
0260  PLA           ;Pull A
0270  RTI           ;Return from DLI
0280 VBI
0290  PHA           ;Save A and X same
0300  TXA           ;as DLI does
0310  PHA
0320  LDA #0        ;0 into A
0330  STA CLINE     ;Reset line number
0340  DEC TIMER     ;Decrease Timer
0350  BNE EXIT      ;If <> 0 then EXIT
0360  LDA RTIME     ;Get Timer Reset
0370  STA TIMER     ;Store at counter
0380  LDX #22       ;22 bytes to copy
0390 COPYLOOP
0400  LDA SCT,X     ;Get byte
0410  STA SCT+1,X   ;Store in next loc
0420  DEX           ;Decrement X
0430  BPL COPYLOOP  ;If >-1 then LOOP
0440  LDX CURRENT   ;Get DATA pointer
0450  LDA DATA,X    ;Get byte
0460  STA SCT       ;Store in line 0
0470  INC CURRENT   ;Increase pointer
0480  LDA CURRENT   ;Get pointer
0490  CMP MAXIMUM   ;At last line?
0500  BNE EXIT      ;If No then EXIT
0510  LDA #0        ;0 into A
0520  STA CURRENT   ;Reset pointer
0530 EXIT
0540  PLA           ;Restore A and X
0550  TAX           ;as before
0560  PLA
0570  JMP XITVBI    ;Continue OS VBI
0580 DATA *=*+1     ;Store for DATA
```

scan line.

The byte is then stored to the Horizontal scroll register (HSCROL) which actually moves the scan line. CLINE is then increased by one (line 230) so that at the next DLI call it knows that it's at the next line. The registers are restored and the routine exited using an RTI - Return from Interrupt - instruction.

## THE VBI

A VBI is called every time that the screen display has finished being updated so is useful for changing anything on screen smoothly, as the action occurs between screen frames. The registers are saved as before, even though this is not really necessary but is done here for completeness. CLINE is reset (lines 320-330) and the Timer counter is decremented (line 340). If it has not reached zero yet the routine jumps to EXIT to finish the VBI and carry on. If zero is reached then the counter is loaded with the Reset value to re-start the Timer (lines 360-370).

The scroll table data is then moved up in memory with the COPYLOOP routine. X is used as an index and starts at 22. This is because you must start at the end of the table and work backwards storing a byte in the





next highest location (i.e. byte 22 goes into byte 23, then byte 21 goes into byte 22 etc.) - lines 400-430. Note that I've used a BPL because I still want to jump back when X is equal to zero (line 430).

After the bytes are moved up in memory (which is down on the screen!), the top line is updated with the next scroll DATA for whichever effect routine your using. X is again used as an index (from the CURRENT pointer) into the DATA area, so this is limited to 256 bytes in length. The byte is loaded and stored at SCT (lines 440-460). The CURRENT pointer into the DATA area is then updated to look at the next byte and compared with MAXIMUM to see if it's reached the end or not (lines 470-490). If it hasn't you jump to EXIT again, if it has then reset CURRENT to 0 (lines 500-520).

Upon reaching EXIT, you simply restore the CPU registers and jump to the VBI exit point - which is the start of the OS VBI routine. ●

## STUNNING DEMOS!

*On this issue's disk you'll find some stunning demos from Andy which use the techniques outlined in this article. The first is* ***PSYCHO LINES*** *which creates amazing, pulsating patterns on screen similar to some of the screen savers used on the PC. You can set various parameters to try and create your own effects or just let the program choose the effects for you. Either way the effects are superb.*

*BIG WAVER is a really psychedelic picture mover that will take any standard picture and do weird and wonderful things with it. Perhaps the best demonstration is the Visionaire Software logo which is stretched and distorted into unimaginable shapes in a constantly flowing pattern. The effect is mesmerising. Check it out!*




PROGRAMMING

# PICTURE COMPRESSION

***Andy Guillaume has some routines that you might find useful when you want to include pictures in your games or programs***

This program allows you to load and save in Atari Vertically Compressed (VC) format (as used by Atari artist and several other programs) and standard 62 sector format with options for Colour bytes and Data offset distances. This means that you can load/save any format in several Graphics modes.

From the Main menu, use the following keys:

**L** Load VC file. A disk directory is shown for the current filename extender(see below). Enter filename only or press Return for the menu.

**S** Save VC file. Enter filename or hit Return for the menu again.

**F** Set Filename extender. Type in letters for the required extender, and press Return.

**G** Set Graphics mode. Type in the required number. Legal inputs are 9,10 ,11 ,24 (8+16) and 31 (15+16). (All 7680 byte modes)

**V** View picture. Shows picture in current GR. mode and colours. Any key to return to the menu.

**C** Set colour Registers. Current values are shown for all nine registers. Press 0-8 to select a register to alter, and type in the new value. Press V to view the picture or M for the menu.

**O** Load standard format file. Disk directory shown. Type the filename or press Return for menu.

**A** Save standard format file. Type the filename or Return for menu.

**D** Number of Data offset Bytes. If the picture information does not start at the beginning of the file, you may specify up to 7680 offset bytes. These will be skipped and then the following bytes used for data upon loading.

**B** Number of Colour Bytes. If colour register information is needed, you can specify up to 9 bytes to be loaded or saved at the start or end of the file, and an offset into the colour registers. The first prompt is for the number of bytes at the start of the file, i.e. before the graphics data. If the colour bytes are stored after the graphics data then enter a negative number. The next prompt is the offset into the registers. This number is added to 704 (Reg. 0 Address) to give the load address for colour bytes.

For example, Micropainter uses 4 colour bytes at the end of the file with a register offset of 3. However, notice that the background colour is first then the three playfield colours, and is thus loaded to and saved from register 707 (704+3) in the program. Just copy the value to and from register 712 on the Set colour registers screen after loading and before saving to maintain compatibility. Type B, -4 <Return>, 3 <Return>. Screen shows: 4 at End >R3

NB. Data and Colour offset bytes are only used when loading and saving standard (Uncompressed) format files. Values set are ignored when handling VC files, as all nine colour bytes are stored automatically. Any Data offset bytes are always read first, then any Colour bytes.

I took the VC routines from Flower Garden on the issue 61 disk, these were very messy and in arrays. I don't like this method and just saved the array contents to disk, a little tinkering about later and I think you'll agree that my routines are much much better.

I also disassembled them but the compaction method is quite complex so I'll skip explaining it, but it works fine in this incarnation. Program breakdown is above, also look at the disk directory routine. (FILES procedure in the program)

### THE LISTING

***Picture Compression is a long listing which would take over four pages to print. It is therefore on this issue's disk ready to run and also available on request as a Typo-coded listing to type in.***

# TURBO TIPS

## by Robert de Letter

One common problem is restricting keyboard response to a selected number of keys such as Y and N for yeas and no answers. Normally you would use:

```
GET KEY: IF KEY <>89 AND KEY <>78 AND KEY <>65 THEN GOTO ....
```

The problem with this is that you need to look up the ATASCII values of the keys and if there are several responses or you want to trap lower case response as well the statement can get quite unwieldy.

Instead of this use:

```
REPEAT: GET KEY: A=INSTR("YNA",CHR$(KEY)):UNTIL A
```

The beauty of this is that you can easily add the keys you want into the string with little effort.

This tip from Robert leads on to a follow up which will also save you time and memory. Normally you would follow up the the first statement by something like:

```
IF KEY = 89 THEN ....
IF KEY = 78 THEN ....
IF KEY = 65 THEN ....
```

but you can take advantage of the value returned to A by putting the action you wish to be taken on, say, lines 101,102 and 103 then simply stating on your next line after getting the key:

```
GOTO 100+A
```

HEY! HEY! it's

# The TIPSTER

*This time we have all those hints and tips that we promised at the end of the last issue. The cupboard is now bare, except ... that James Mathrick has sent in a couple of pages of stuff that we will use next time. Thanks James. As to the rest of you, don't just sit on your keyboards, let's have something for the next one.*

## VIVE LE TIPS!

Some very welcome tips from across the Channel (or through the Chunnel) come from ***Miguel Letemplier*** in France.

**SPEED HAWK**: Press Shift and ESC for complete invincibility

**YOGI BEAR AND THE GREED MONSTER:** During the intro screen again press SELECT+OPTION+START simultaneously and press the trigger on joystick 1. Then release all keys and enjoy unlimited lives!

**CAVERNIA:** Back in issue 71 a tip supplied by Richard Gore and Ivan Mackintosh says that typing **STEVIE NICKS** makes it possible to jump to the next level but what they don't tell you is that typing in **TAMSIN** enables you to start directly from level 8.

Merci beaucoup, Miguel!

## A TRIO OF TASTY TIPS

***Daniel Yelland*** lives just down the road from The Tipster in Stafford and has been busy giving his Atari a run through with a selection of great games. Here's what he has found out that could be useful to you.

### STAR RAIDERS II

If you are low on energy and all of your space stations have been destroyed then warp to the nearest star and your energy will be refilled. After this has happened warp away quickly or the hull will overheat.

### DAVID'S MIDNIGHT MAGIC

To shake the machine press up and down quickly on the joystick. This can knock the ball back into play if you don't have a Magi-Save Magnet.

### PROTECTOR

Let your opponent collect the pieces of the bomb and take the finished bomb out of his base. Drop it in your base, pick it up again and drop it in your opponent's base to win the game.

## OLYMPIC SKIER

From Jason (presumably Kendall, the note got separated from an order) is a tip to avoid dead ends in **OLYMPIC SKIER**. Hold tight and go **L R L L R L R L R R R FINISH** (go on then, try reading that while skiing at full pelt!)



# SPELLBOUND

**In Issue 76 Daniel Yelland asked for some help with SPELLBOUND and now *C AYRES* from Wood Green in London has provided a map and plenty of clues to help you get through the game.**

## THE MAP

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 33 34 | 35 | | roof | | 36 | | 37 |
| | 29 30 | | | 31 | | | | 32 |
| | 19 20 | 21 | 22 | 23 | 24 | 25 26 | 27 | 28 |
| lift | | 12 | 13 | 14 | 15 16 | | 17 18 | |
| | 6 | 7 | 8 | | 9 | | | 10 |
| | 2 | 3 | 4 | | | 5 | | |
| | 1 | | | | | | | |

*The map shows the location of the following objects:*

1. POWER PONG PLANT
2. SHIELD
3. PUDDLE
4. POCKET LASER
5. BROKEN TALISMAN
6. STICKY BUN
7. BOOK OF RUNES
8. GOLD GOBLET
9. TUBE OF GLUE
10. TRUMPET
11. CRYSTAL BALL
12. BOOK OF SHADOWS
13. BRICK
14. EMPTY BOTTLE
15. GOLD BAR
16. CANNON BALL
17. BLUE CRYSTAL
18. WHITE GOLD RING
19. KEY
20. ENGRAVED CANDLE
21. PEWTER TANKARD
22. MIRROR
23. SAXOPHONE
24. TELEPORT KEY
25. RED HERRING
26. GLOWING BOTTLE
27. TELEPORT PAD
28. INSTRUCTION BOOK
29. RED CRYSTAL
30. ANCIENT SCROLL
31. GREEN CRYSTAL
32. JAVELIN
33. FOUR LEAF CLOVER
34. BOTTLE OF LIQUID
35. RUNESTONE
36. PRISM
37. WAND OF COMMAND

more ☞

## THE CHARACTERS

*GIMBAL THE WIZARD* - will give you help with the **RELEASE** spell

*THOR* - give him the **MIOLNIR** and he will help you get into the lift and also at the tower

*FLORIN THE DWARF* - give him the **BOTTLE OF LIQUID** and take it back again and it will restore your energy. If you have the **TUBE OF GLUE** and the **BROKEN TALISMAN**, give them to him and command him to help. He will then mend the talisman and it will become the **MAGIC TALISMAN**

*ORIC THE CLERIC* - give him the **CRYSTAL BALL** and he will help you get into the **MOST MAGIC ROOM** with the **CRYSTALLIUM SPECTRALIS** spell

*SAMSUN THE STRONG* - give him the **JAVELIN** and he will help you at the pit

*ELFRAND THE HALFELVEN* - give him the **TRUMPET** and he will help you at the wall after THOR has helped you at the tower

*LADY ROSMAR* - give her the **POCKET LASER** and she will help you at the **SECRET TUNNEL** entrance

*THE BANSHEE* - command this character to help and she will give you some clues

## THE SPELLS

The spells and their uses are as follows:

*FUMITACUS PROTECTIUM*

To cast this spell you will need the **RED HERRING** and the **POWER PONG PLANT**. This will protect you in the gas room

*ARMOURIS PHOTONICUS*

To cast this spell you will need to stand in the puddle at the **SECRET TUNNEL** entrance. This will enable you to go through the dark rooms without the **GLOWING BOTTLE**

*CANDELIUM ILLUMINATUS*

To cast this spell you will need the **ENGRAVED CANDLE** and the **SHIELD**. You will also need the **FOUR LEAF CLOVER** in the room. When you have lit the candle you can use it to read the **ANCIENT SCROLL**

*PROJECT PHYSICAL BODY*

If you get the **CRYSTAL BALL** and the **MAGIC TALISMAN** you may cast this spell which will enable you to teleport to any character in any room



*CRYSTALLIUM SPECTRALIS*

For this spell you will need the **THREE CRYSTALS** and the **WHITE GOLD RING**. You will also nee to give the **CRYSTAL BALL** to *ORIC* and summon him to the **MOST MAGIC ROOM**. When the spell has been cast you will need to throw the **THREE CRYSTALS** at *GIMBAL* to free him

*RELEASE SPELL*

To make this work you will need to be in the room with *GIMBAL* after he is freed. When the spell is cast you will have to summon the characters in this order - *ELRAND, SAMSUN, THOR, ROSMAR, BANSHEE, FLORIN, ORIC* and last of all, *GIMBAL*. Make sure that all of the characters are at full strength before you summon them

Finally a couple of clues to help you on your way.

*To get past the tower you need to take the two lumps of brickwork from the wall after ELRAND has blown it down. You can then drop them on top of each other near the tower.*

*To find the BANSHEE you can drop the GLOWING BOTTLE after casting the ARMOURIS PHOTONICUS spell.*

*If a character does not want to be summoned or commanded by you then try to command it to be happy.*

This is not the complete solution to this game but there is enough there to enable you to finish it. After all why should I ruin your enjoyment in working out the other puzzles to get to the end?

* * * * * * * * * * * * * * * * * * * * * * * * * *

## MORE TIPS

***Graeme Fenwick*** up in Bonnie Dundee brings us a couple of useful cheats on two popular games:

**INTERNATIONAL KARATE** On the disk version, if you want to fight in a particular country but aren't good enough to get there, leave the game on demo mode. When it has reached the screen you want to fight on, take the disk out and press START. Voila!

**MIRAX FORCE** Entering CPM (the author's initials) on the title page give you invulnerability

## HELP!!!

James Mathrick will bring you help next issue on ALTERNATE REALITY, RAMPAGE, THE LIVING DAYLIGHTS, POLE POSITION, LANCELOT and HARDBALL but he would like some help on the following

**MIDNIGHT**
**HAWKQUEST**
**DRUID**
**ZYBEX**

Do you know anything about these games? If so please send them in for the next issue (i.e. do it now!)

As usual all stuff goes to:

**THE TIPSTER, NEW ATARI USER**
**P.O. BOX 54, STAFFORD, ST16 1TB**



TUTORIAL

# TEXTPRO MACROS PART 3

***Frank Walters continues his exploration of the macro command of TextPRO with a practical example for printing envelopes***

So far we have looked at all of the TextPRO command keys and given some examples on how they might be used. This issue I am going to show you how to create two useful TextPRO macros. The first will print addresses from an address list directly onto envelopes. It will work with a single address or you can select which addresses to print, and which to skip, from a list of addresses. After experimenting with using two banks, I found a better way of doing it using a single bank so that a 48k Atari can use the macro. The second macro will find any address in your list from a search string and extract the address for use in a letter or single envelope. If you have to print many envelopes, such as for club mailings, this is a much nicer way than printing labels and sticking them on the envelopes. It is much more personalised for business letters. Labels on letters look like what they are - bulk mailing. I, personally, pay little attention to mail I receive with a pasted label on the envelope.



## PRINTER REQUIREMENTS

For the envelope macro, called ENV.MAX, you must have a printer that will allow you to print an envelope using friction feed and you must disable the paper-out switch either by dip-switch or software command. The ENV.MAX I explain here defines inverse <Y> as the Epson compatible paper-out disable command. This is critical because the envelope is not long enough to prevent the printer from stopping before printing the entire address due to the paper-out switch becoming exposed as the envelope moves up the roller. If your printer is not capable of both the above requirements, then ENV.MAX is not for you. Read how to create an address list, then skip down to the FIND.MAX section.

### NEW KEYBOARD CONVENTIONS

Since our listings have been getting pretty unwieldy, we're going to streamline our conventions for the complex entries a bit. Keys on the keyboard are surrounded by brackets. [START] means the START key. Inverse characters are bracketed by 'less than' and 'greater than' symbols. <=> means inverse =, which is entered from the keyboard by first holding down [SELECT] then typing the [=] key. Multiple key strokes are indicated by an 'underline' symbol or _ connecting the indicated keys. CTRL indicates a 'control character', which means the [Escape] key must be pressed prior to entry. [CTRL_G] indicates that you would first press [Esc] once then hold down the [CONTROL] key while pressing [G]. <CTRL_G> means to first press [Escape] once, then hold down [SELECT], then hold down [CONTROL] and , while holding down both of these keys, press [G]. [SHIFT_INSERT] and [SHIFT_DELETE] are also "control characters" requiring [Esc] to be pressed prior to the rest of the indicated entry. [CONTROL]_[G] is not to be a control character, so no [Esc] is required; just hold down [CONTROL] while typing a [G]. The same is true for [SHIFT]_[G].

## TYPING THE ADDRESS LIST

First I should describe how to make the address list. It simply consists of a text file with addresses typed in sequence, one below the other. The only limitation is that each address must consist of exactly four lines of text, each line followed by a carriage return. If an address only needs three lines, simply add a carriage return on a blank line for the fourth required line. Do not skip a line below a four line address in your list. *Example:*

John Doe
Company Name
Street Address
City, State ZIP
Mary Smith
Street Address
City, State ZIP
[RETURN]

The [RETURN] key indicates a blank line with just a carriage return in your text file. Name your address list ADDRESS.A or use .B for business, .C for club etc. You can have more than one address list and even duplicate addresses for ease of printing envelopes from one list or another. Let me clarify something. You will have the option of printing or skipping over any address in the list when using the macro.

# ENV.MAX ALGORITHM

The way ENV.MAX works is for the macro to load the address list from disk and then create the print format and return address ahead of the first address in the list. The <&>1 command is used to restrict printing to page 1 only, and the <n> next page command is inserted following the first address so the remainder or the list is not printed. After each envelope is either printed of the address skipped, the address is deleted and replaced by the next address on the list, using the delete and replace functions.

# CREATING ENV.MAX

Table 1 shows ENV.MAX in its entirety. Now I will take the macro apart, line by line, so you can see how it works.

<i=><CTRL_Y> Active macro> ENV.MAX[RETURN]
@<=><CTRL_P>&<CTRL_A>Load ADDRESS list[RETURN]

The first line is just the macro identification line. In the next line, the autorun macro (@) will execute when you load the macro using [START] from the default (TEXTPRO.MAX) macro. TextPRO 5.0 uses inverse <CTRL_P> to predefine the alternate macro command if you reply No to the Ask <CTRL_A> macro. For version 4.56, you cam eliminate the <CTRL_P>& from this line, since & is the default macro when No is the reply. The <CTRL_A> is used to ask whether you want to load the address list, since you may already have the address you want to print in the editor.

[CTRL_H][CTRL_H][CTRL_L]ADDRESS.A<CTRL_I>[RETURN]

You want to Home the cursor to the top before loading the address list. After the load file command, the filename is typed by the macro and then the <CTRL_I> input mode is entered so the user can either accept the default address filename or change the file extension before hitting [RETURN] to exit the input mode.

<CTRL_G>&&<=><CTRL_F><n>[RETURN]

This is the Goto command to the [&] key macro, which is where the macro logic continues if you had skipped the load-address function by replying No to the Ask macro command. [&] defines the "Find" string with inverse <CTRL_F>. The "Find" string, in this case, is inverse <n>, which will be used to delete the address which has just been printed or skipped.

<CTRL_X>[CTRL_E][RETURN]
[5 spaces]<END OF LIST> - Press < HELP >[RETURN]
[RETURN]

Inverse <CTRL_X> turns off the screen for speed while the macro is typing on the screen, starting at the end of the address list [CTRL_E]. The next line is added to the end of the address list so you can see when you are done using the list.

[CTRL_H][CTRL_H]<CTRL_D>PPPP[RETURN]

This homes the cursor to the top of the address list and deletes the first address (4 lines) into the paste buffer and exits the delete mode with [RETURN].

[SHIFT_INSERT][SHIFT_INSERT]<Y>=56<Z>=57[RETURN]
<&>1<t>0 <l>0<p>24[RETURN]

Remember to press [ESC] before each [SHIFT_INSERT] so the down-arrow character is printed in the macro. The remainder



## TABLE 1 - ENV.MAX

```
<i=><CTRL_Y> Active macro> ENV.MAX[RETURN]
@<=><CTRL_P>&<CTRL_A>Load ADDRESS list[RETURN]
[CTRL_H][CTRL_H][CTRL_L]ADDRESS.A<CTRL_I>[RETURN]
<CTRL_G>&&<=><CTRL_F><n>[RETURN]
<CTRL_X>[CTRL_E][RETURN]
[5 spaces]<END OF LIST> - Press < HELP >[RETURN]
[RETURN]
[CTRL_H][CTRL_H]<CTRL_D>PPPP[RETURN]
[SHIFT_INSERT][SHIFT_INSERT]<Y>=56<Z>=57[RETURN]
<&>1<t>0<l>0<p>24[RETURN]
<Y>Your name[RETURN]
Your Street address[RETURN]
Your City, state ZIP[RETURN]
[RETURN]
<d>5<l>30[RETURN]
<ni >[ESC][SHIFT_INSERT]< ADDRESSES REMAINING >[ESC][SHIFT_IN-
    SERT]< >[RETURN]
[SHIFT_DELETE][CTRL_-][CTRL_R]<CTRL_Z><CTRL_G><22=><CTRL_Y>
    <HELP> Exit <START> Print <OPTION_0> Skip[RETURN]
#<=>[CTRL_P][RETURN]
<CTRL_G>00<=>[CTRL_F][RETURN]
[CTRL_=][CTRL_D]PPPP[RETURN]
[CTRL_=][CTRL_R]<CTRL_G><2>?<=>[CTRL_H][CTRL_H]
    <CTRL_V>Y<Z>[RETURN][CTRL_P][RETURN]
[CTRL_H]<CTRL_V>Y[CTRL_V]TEXTPRO.MAX[RETURN]
```

and next line are printed to the screen when the macro is being executed to format the text for the envelope. Inverse <Y> and <Z> are the equates for the Epson/Panasonic paper-out switch disable and enable commands, respectively. Insert the correct codes for your printer, if different. TextPRO formats <&>stop printing at page 1, <t>op margin 0, <l>eft margin 0, <p>age length 24.

<Y>Your name[RETURN]
Your Street address[RETURN]
Your City, state ZIP[RETURN]
[RETURN]

<Y> disables the paper-out switch. You can follow it with other upper case inverse letters to set your own font, NLQ, etc. Follow these printer codes immediately by your name and return address using up to four lines. If you only need three lines, include the extra [RETURN] on the fourth line.

***NOTE:*** Be sure you have configured TextPRO to "Add ESCape" characters using the [CTRL]_[;] command. It is best to save your configuration after setting this. Reply [N] to the C/R and Linefeed prompts and [Y] to the "Add ESCape" prompt. ESCape (ASCII 27) will be sent by TextPRO whenever it encounters an inverse upper case letter. This is essential since the Epson paper-out disable command is actually 27, 56.

<d>5<l>30[RETURN]

Down 5 lines and left margin 30 following return address, for printing the "to address" on legal-sized envelopes. For smaller envelopes, adjust these accordingly. I found for Print Shop Card sized envelopes, <d>7<l>15

works nicely. I made up a duplicate ENV macro with these parameters instead and named it ENV2.MAX.

```
<ni >[ESC][SHIFT_INSERT]< ADDRESSES
REMAINING > [ESC][SHIFT_INSERT]< >
[RETURN]
```

This is a tricky line to type. Hold [SELECT] to type the inverse <ni> and space. You hit [ESC] twice to print the escape character in the editor. Then type [ESC] a third time before typing [SHIFT_INSERT] to type the inverse down arrow. [SELECT] while typing the text message and repeat the escape sequence again. It should show two down arrows pointed to the addresses below that line once the macro is executed. The line ends with an inverse space <space> before the [RETURN].

```
[SHIFT_DELETE][CTRL_-][CTRL_R]
<CTRL_Z><CTRL_G><22=><CTRL_Y>
<HELP> Exit <START> Print <OPTION_0>
Skip[RETURN]
```

This is another tricky line. Remember to press [ESC] to type the SHIFT and CTRL characters on the screen. <CTRL_Z> turns the screen back on. Following <CTRL_Y>, the remainder of the line is simply text, the brackets around the <START> and <OPTION> indicate you type the words in inverse by holding [SELECT]. The text will appear as a prompt in the status line when you run the macro.

```
#<=>[CTRL_P][RETURN]
```

This line defines the [START] key to print the first envelope.

```
<CTRL_G>00<=>[CTRL_F][RETURN]
```

This line defines Goto macro 0 (zero). The [OPTION_0] (zero) macro will delete text from cursor to the "Find" character, which is the address that was just printed, so the [START] key and the [OPTION]_[0] key will delete that address.

```
[CTRL_=][CTRL_D]PPPP[RETURN]
```

This moves the cursor (arrow) down one line to delete the next 4-line address into the paste buffer.

```
[CTRL_=][CTRL_R]<CTRL_G><2>?<=>[CT-
RL_H][CTRL_H] <CTRL_V>Y<Z> [RE-
TURN][CTRL_P][RETURN]
```

This moves the cursor up one line and replaces the new address from the paste buffer, Goto macro <2>, which reprints the status line message. The [HELP] key [?] macro is defined to home the cursor and delete text below the cursor instead of clearing the screen, which retains the filename of the address list in memory. It then types and prints <Z> to restore the paper-out switch function before re-loading TEXTPRO.MAX from disk, which is the last entry:

```
[CTRL_H]<CTRL_V>Y[CTRL_V]TEXTPRO-
.MAX[RETURN]
```

Remember <CTRL_V> is inverse and [CTRL_V] is not.

# USING ENV.MAX

This is the easy part. Just insert your envelope, flap open, into the printer. Set friction feed and use the linefeed button to align the top edge of the envelope with the print head, on the line where you want to print your return address.

If TEXTPRO.MAX is loaded, press [START] and type ENV and hit [RETURN]. If TEXTPRO.MAX isn't loaded, simply load the macro with the [CONTROL]_[V] command. At the prompt to "Load ADDRESS list" press [Y] or [N], depending on whether you have the address already in the editor. Remember, when loading the address list, you can change the filename using the backspace before you



press [RETURN]. Wait patiently while the screen is turned off as the macro is formatting the envelope address for printing.

When the screen turns back on again, follow the instructions on the status line:

[HELP]: Quit and load TEXTPRO.MAX
[START]: Print envelope and move next address into position
[OPTION]_[0]: Skip current address and move next address into position

An alternate method is to press [CONTROL]_[P] to print the current address without deleting it so you can print several duplicate envelopes at once. You can also print a self-addressed return envelope by swapping the 4-line return address with the "to" address and using [CONTROL]_[P] to print. Put your correct return address back before printing any more envelopes. ***CAUTION:*** If you move the cursor to edit anything before printing, be sure you return the cursor to the first letter of the top line of the current "To" address before pressing [START]. The delete function will delete from the cursor position, so you must have the cursor at the start of the address to delete the entire address after printing it.

# A SECOND MACRO

Our second macro is FIND.MAX. This macro uses the same address file as ENV.MAX. The purpose is to find an address to include in the salutation portion of your business letter and add it to the paste buffer for easy placement.

I will not go into full detail on typing FIND.MAX since you should be able to work it out from ENV.MAX. The complete macro is shown in Table 2 overleaf.

# USING FIND.MAX

You must have your ADDRESS.A (or other) address list on drive 1. If you have TEXTPRO.MAX loaded, press [START], type FIND and press [RETURN]. If not, load FIND.MAX via [CONTROL]_[V]. You will be prompted to enter the Find: string. The macro defaults to lower case since the Find Function is case sensitive. Type a portion of the name you wish to find in the address list. Use [SHIFT] for typing upper case letters and press [RETURN]. Reply [Y] to "Clear Screen" prompt unless you forgot to save the file in the editor. If you answer [N], you can save the file in the editor and continue with the macro by pressing [START] for the "Clear Screen" prompt. Answer [Y] and the ADDRESS.A file will be selected to load but you have to press [RETURN] to load the default name. You can backspace to change the default name on the command line if you want, then hit [RETURN].

The macro will then move the cursor down to the first occurrence of your Find string and the menu will appear on the status line:

Okay? Yes No (up down arrows) Find Address Quit

Answer [Y] if it found the address you are looking for. It will delete it into the paste buffer, clear the screen, replace the address and load TEXTPRO.MAX from disk.

Answer [N] to look for the next occurrence of your Find string. If it cannot find any more matches, the cursor will step right, one word at a time, whenever you hit [N]. With TextPRO 5.0 you will get a "Not Found" message, instead. In either case, you can then use one of the other options of the menu to continue or quit.

Use [up] or [down] cursor keys (without [CONTROL]) if you had searched for a string

## TABLE 2 - FIND.MAX

```
<i><CTRL_Y> Active macro> FIND.MAX[RETURN]
@<=>[CTRL_T]L<CTRL_F><CTRL_I>[RETURN]
<CTRL_G>##<=><CTRL_A> Clear the Screen[RETURN]
[SHIFT_CLEAR]Y<CTRL_G><11><=>[CTRL_K][CTRL_L]ADDRESS.A
     <CTRL_I>[RETURN]
<CTRL_P><3>[CTRL_F]<CTRL_G><22><=><CTRL_M>Okay?<Y>es
     <N>o[ESC]<CTRL_-> [ESC][SHIFT_INSERT]<A>ddress <F>ind <Q>uit
     [RETURN]
<CTRL_G><2>N<=><CTRL_G>nn<=>[SHIFT_*]<CTRL_P><3>[CTRL_F]
     <CTRL_G><2>Y<=><CTRL_G>yy<=>[CTRL_Q][CTRL_D]PPPP
     [RETURN]
[SHIFT_CLEAR]Y[CTRL_R]<CTRL_G>?q<=><CTRL_G>?a<=>
     [CTRL_H][CTRL_H] <CTRL_G><1>f<=><CTRL_F><CTRL_I>[RETURN]
[CTRL_H][CTRL_H]<CTRL_P><3>[CTRL_F]<CTRL_G><2>?<CTRL_G>q-<=>
     [CTRL_Q][SHIFT_-]=<=>[CTRL_Q][SHIFT_=]&<=>[CTRL_H]<CTRL_Y>
     Press <START>to run again[RETURN]
?<=><CTRL_G>//<=>[CTRL_H][CTRL_H]<CTRL_P><i>[CTRL_V] TEXTPRO-
     .MAX [RETURN]
<3=><CTRL_Y>Not found - Press any key[RETURN]
<CTRL_K><CTRL_G><2>[RETURN]
```

not on the first line of the address. Move the cursor to the first line of the address before replying [Y] to the prompt or it will not delete the entire address to the paste buffer. You only need the [up] cursor but I included the [down] in case you hit [up] too many times.

**[A]ddress** is to load a different address file from disk.
**[F]ind** is to enter a different Find string.
**[Q]uit** will re-load TEXTPRO.MAX if you do not find what you are looking for.

What have you accomplished? if you found your address, it is both on the screen and in the paste buffer. I normally then begin my letter and use [CONTROL]_[R] to replace the address from the paste buffer to the editor when I reach that portion of the letter. I also have a macro to type the heading of my letter and if I use that after FIND.MAX, it will automatically type everything (prompting input mode for the date) and add the address from the paste buffer at the right place in the letter.

## FINAL COMMENTS

I hope you find these macros useful. I just used my ENV macro to address five letters to congressmen and the Federal Aviation Administration concerning a proposed change in aviation services. It was really quite efficient and no trouble at all to use. The hardest part is learning how to insert the envelope into the printer!

*This article originally appeared in the U.S. magazine Current Notes which, alas, no longer caters for the Atari Classic.*



# DISK BONUS

# DRAGONLORD

### by Robert de Letter

Dragonlord is a fantasy adventure game for one player. The object is to find the dragon in the dungeon maze. To do this, you mustn't allow your hit points or strength to drop to zero, you must make sure that you have plenty of food to eat, and you must fight and slay the many orcs and guards as they will try to keep you from your goal.

To kill the dragon you need: a sword, an amulet and a brew. The amulet will protect you against the dragonfire, and the brew gives your sword more power. If you stumble upon the dragon without a sword, amulet or brew he'll kill you instantly. If you happen upon a teleporter, you'll be magically moved to a randomly selected room. If you don't have the brew, the amulet and a sword there is a one in ten chance that the selected room will contain the dragon.

You must buy the brew and a sword in the store (touch the 'S' in a room and you're in the store). The amulet is hidden in the dungeon. Whenever you start a game go to the store and buy some food and a sword, then go to the magician and pay him 8 gold pieces for a directional clue - your position relative to that of the amulet.

Whenever your strength falls below 20 you will automatically drink a serum (if you have any on hand). One thief will steal half your gold, another thief steals your sword. If this happens, immediately buy another sword as you can't survive without one. It's the only thing you can buy without having enough money.

Each time you move, you lose 1 strength point, without food 2 points! When you leave a room it will be empty, the only exceptions being the teleport rooms. When you enter an empty room there is a one in four chance that an orc or a guard will follow you.

Casting a spell allows you to move instantly to any room of your choice. To cast a spell touch the icon in the upper left corner of the room. Use the joystick to increase or decrease the number of the room, then press the trigger. Viewing the map is a free command, touch the 'M' placed in the lower right corner. The rooms are numbered from 1 (upper left) to 77 (lower right).

Besides an amulet clue, the magician can also give you a dragon clue - your position relative to that of the dragon. STR and HP points can be improved by the same magician Good luck.

**This great program is the BONUS on this issue's disk. If you are not a disk subscriber you can still obtain a copy for £2.95 from NEW ATARI USER, P.O. BOX 54, STAFFORD, ST16 1TB. Please make cheques payable to PAGE 6 PUBLISHING or order by telephone with your Visa or Access card on 01785 241153**

# The CLASSIC PD ZONE

*Oh dear! Although Stuart said last time that he hoped to be rescued, little did he realise that he would be severely punished for the damage caused to his ship in Issue #74! The very people who sent him on his mission have sentenced him to the most heinous punishment possible - having to pack up his belongings and move house! Thus, that particular story ends once and for all and, until his sentence is complete, I have been assigned to take over the Classic PD Zone from the comfort of my computer room - I don't think Stuart will be going on any more space-missions in a hurry!!! Stuart should be back in an issue or two's time but, until then, I'll be taking you through this issue's wares! Game on!*

## THE TROUBLE WITH COMPUTER GAMES...

**TROUBLE WITH THE BUBBLE** (TWTB from now on!) is one of those games that makes you realise the trouble with computer games in general - they're so addictive!

TWTB starts off with a nice title screen and some spookyish, fairly good music. A stab at the START button starts the disk loading again, ready for the main game. The first thing that strikes you about TWTB is the graphics - for a PD game, they're actually not too bad - nothing mind-blowing but fine for the job. Someone has put a fair bit of effort into designing them and this sort of thing helps to boost what could be classed as an "average" game into a higher division.

One thing that stands out from the rest of the screen is a largish bubble. Your task, should you choose to accept it, is to manoeuvre the bubble from the right-hand side of the screen to the left-hand side whilst avoiding hitting any piece of scenery - bubbles are delicate little objects after all! However, it's not as easy as all that because you don't directly control the bubble at all but rather an arrow which is capable of sending gusts of wind towards the bubble. To make matters worse, whether you are blowing the bubble or simply letting it stand still whilst you have a think, gravity starts to take effect and the bubble gradually moves downwards with the potential to hit a piece of scenery below. To increase the difficulty, various objects whizz across the screen and, should they hit your bubble, it will burst in no uncertain terms!

You are granted approximately 30 seconds per level (although this is measured in "air" units which gradually decrease as time ticks by) before your bubble explodes of natural causes.

The author thoughtfully included a high-score table for those that are good enough to gain entry. I won't tell you what my highest score was but hopefully a bit of practice will improve it!!!

Soundwise, TWTB is average with only the sound of gusts of wind as objects whizz by in the game itself - no music plays throughout the game at all. However, the difficulty curve is just right, not too hard but certainly not a piece of cake!

Where TWTB really stands out, however, is in the gameplay factor. More addictive than any hard drug (so they tell me!) and a fraction of the cost. Trouble With The Bubble is an essential purchase - make an addition (or should that be an addiction?) to your PD collection today!

## ...IS THAT THEY'RE TOO HARD TO MASTER!

Disk #146 contains two games - **TRIDENT** and **KARATE MASTER**. By far my favourite of the two games is Karate Master - a gem of a one-player fighting game.

The game first kicks off with a blippy oriental tune and the title of the game, followed by a little more loading. Here, a man dressed in a karate gi (suit) throws a series of kicks before a message on screen asks whether you require instructions. After you've read the instructions, or straight away if you didn't ask for them in the first place, the disk loads in a little more information and you are asked to sign up for the karate competition. After typing in your name, the screen goes black for a few seconds and the actual game screen appears.

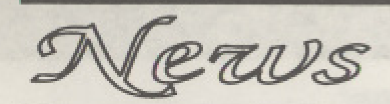
The object of the game is simply to fight your opponents, one at a time, and to score ten hits against them before they do the same against you. Your fighter is moved by the left and right arrow keys whilst a press of the A key makes him throw a random number of kicks to either the face, stomach or knees (oops - what happened to the rule about "no hits below the belt?!!!). However, the real skill lies in knowing when to move forwards and attack and when to move backwards - something that takes a while to learn.

The main game screen will probably shock you the first time you see it, simply because for a PD game the graphics are very good. If I'm correct, the two fighters and the animation have been pulled straight from the commercial "Karateka" game. The screen is very nice looking with flags of various countries at the bottom of the screen and even your opponent's name displayed!

Each opponent appears to fight differently and they get progressively harder - "The Red Baron" is fairly easy meat but by the time you meet people like "The Fox", the challenge has increased considerably. With every fight won, your grade increases - you start at Shodan (1st degree) and can eventually reach Judan (10th degree) with practice.

Overall, Karate Master is almost perfect. The only slight let down is that sometimes the

**by Kevin Cooke**



# AMS 96

The famous AMS computer show celebrates its 10th birthday this year at the usual venue of The Bingley Hall in Stafford. This year's show is on Saturday 9th November opening at 10am. Make a note in your diary now.

Unfortunately Page 6 won't be there due to other commitments (besides we haven't got much left to sell now!) but you should still find plenty of Atari interest. At the time of writing we know that you will be able to see Micro Discount (Derek Fern), TWAUG and LACE whilst Dean Garraghty is going to make a late decision due to other work commitments. The organisers also tell us that there is 'someone from Bristol' also supporting the Atari. Wonder who that can be?

When you add together all the other bargains, like second hand equipment, blank disks (5¼" disks are becoming hard to find now), cables and more, you are in for a good day. Be sure to be there!

# NEW ST MAG

ST FORMAT has finally folded leaving no magazine at your newsagents supporting the Atari. We understand, however, that an intrepid trio of ST owners/writers are getting together to produce a new magazine called ATARI COMPUTING. Whether this will be available through the newsagents or just on subscription is unknown.

If you would like more information on this magazine get in touch with the publisher as follows: Atari Computing Group, Mike Kerslake, 42 Larch Hill, Handsworth, Sheffield S9 4AJ. Telephone/FAX 0114 2618940. EMAIL mkerslake@cix.compulink.co.uk.

ST owners might also like to know of the ATARI WRINKLIES CLUB which caters for the 'old men' of the ST scene. Details from Atari Wrinklies Club, 60 Crumpsall Street, Abbey Wood, London SE2 0LR. Telephone 0181 311 2397. EMAIL jhornby@cix.compulink.co.uk.

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keys don't respond straight away. However, this appears to be when the opponent is waiting to make a move so, if you are trying to kick and it's not working, it's best to take a step backwards out of your opponent's reach!

Karate Master is a first class game and well worth the cost of the disk alone.

Trident, put on the disk to fill it up, is a fun, but much less involving game in which the screen is divided into smaller squares. At the centre of the screen is the USS TRIDENT (your base) and at the beginning of every round, enemy missiles appear around the edges of the screen. It is your job to launch missiles and steer them, using the joystick, so that they collide with the missiles of the enemy. Sounds complicated? It's not - in fact, it's a fairly easy challenge for anyone who plays games a lot. On the other hand, it's a well done version of this type of game and worth having for the occasional play.

Overall, this disk is highly recommended, mainly for Karate Master.

The CLASSIC PD *ZONE*

## RATINGS:

| | |
|---|---|
| #146 KARATE MASTER (and TRIDENT) | 88% |
| #201 TROUBLE WITH THE BUBBLE | 86% |

## BACK TO THE ARMCHAIR!

Oh well, that's it for this issue! As I said, Stuart should be back soon, if not for the next issue then for the one after. In the meantime, why not consider buying something from the Page 6 PD library - everything you buy will help to ensure the future not only of the magazine but also of your computer. Enjoy the rest of the issue! ●



# Features and OPINIONS

# XL V ST A SCORE DRAW?

***Could this be the ultimate sacrilege? Does Kevin Cooke really advocate selling your Classic to buy an ST? Maybe not, read on to find whether a committed 8-bit supporter can be converted***

First of all, let me put my situation into perspective. A year ago, I swore that I would *NEVER, EVER, EVER* buy an Atari ST. I was an 8-bit supporter through and through and saw no need to own any other machine. Besides, at that time, even second-hand ST's were selling for ridiculous prices which I was not prepared to pay for a machine that was rapidly losing it's following.

That was then.

Now, I own an ST. The factor which eventually made me change my mind was the price of second-hand ST's. Forget the idea of buying a new ST - not only would it not be a wise economic choice but it is now almost impossible as Atari decided to drop that machine in favour of their new wonder, the Jaguar (I could question how much effort Atari have put into supporting even the Jaguar but then that's another story!). You may still be, like I was, totally against the idea of buying an ST but I would advise you to think about it carefully - the time has never been better. Let me tell you of my experiences and help you to make the choice.

## BUYER BEWARE

I eventually purchased my ST when I saw it for sale in the local newspaper. Priced at £40 for the machine with some software I thought that it was worth having a look at. The best piece of advice I can give to you if you want to buy an ST is to buy one which is not too cheap. Although mine appeared to be a bargain, at the end of the day I got what I paid for it. Despite having a fairly thorough demonstration of the machine at the house by the bloke of who was selling it, it soon emerged when I was back home that the machine was faulty. When looking at a prospective purch-

ase, always check that:

- the mouse port (port #0) works.
- the keyboard works (try to test every key in a word processor if possible).
- that the disk drive is capable of loading software (again, try to test more than one tware (again, try to test more than one disk).
- that the disks coming with the machine which you particularly want all load correctly and haven't been formatted over!
- if the seller claims that the machine has had it's memory upgraded to above that which it would normally have (i.e. 1/2 meg for a 520STFM or 520STE and 1 meg for a 1040ST), ask to see some software that uses this extra memory to prove that it is indeed fitted.
- ideally, get a friend who owns an ST already to check it over for you. Obviously, with the number of ST owners rapidly decreasing, this may not be possible but have a go - it could save you a fortune in the long run.

Ten pounds for an ST may seem like a bargain but if it doesn't work or it "needs attention" and you don't know anything about the ST's internals then it 'ain't worth a thing! Best of all, get a written receipt stating that the machine is in full working order and pay by cheque if possible - at least you may be able to stop the cheque if the machine turns out to be faulty in the next day or two. I would advise you *ALWAYS* to buy locally - problems are easier to sort out in person than by letter or phone and the seller may even offer you some help when needed! This will also prevent damage occurring during transit. Of course, don't be silly and pay something like £500 for an ST no matter what other things are thrown in. If you are willing to spend that much on another computer then invest in a PC and find out what complications really are!

## SETTING IT UP

Once you've bought an ST, you obviously need to set it up. One thing to take into account is that the ST has three different screen "resolutions" - low res and medium res will work on an ordinary TV (although some characters may be hard to read in medium res mode) but hi-res mode NEEDS a high resolution monitor to work at all - be careful as some programs (especially some utilities) will only work in hi-res mode. Hi-res emulators for TV's ARE available but most software will function so much better on a proper hi-res monitor that you'll probably end up buying one out of frustration anyway! Of course, hi-res monitors display images only in shades of grey and so aren't really suitable for game playing. Another thing to look out for is that there are different types of ST available and, as I mentioned earlier, each has a different memory size and version of the OS (operating system). Ideally you need at least a 1 meg machine (although a 1/2 meg machine may do if you only intend to play older games). You'll need to be prepared for the fact that some programs will only work on an STE and NOT the STFM whilst some programs will not work on the STE! If in doubt, ask the person or company who is selling the software! Software that says "TOS 2.6 REQUIRED" will only work on the STE, as far as I know.

## WHAT CAN I DO WITH IT?

Take your pick, basically!

For games, the ST is good. Although many games aren't any more playable on the ST than on the 8-bit, some are graphically very impressive. At the moment, the ST is in much the same situation as the 8-bit (but with a few more users) in that most commercial support has moved onto the 32-bit games-machines and the PC. However, this does mean that there are some REAL bargains to be had from the remaining sources of ST software. If you used to envy ST owners with their range of games a few years back, why not invest in some of them? As I suggested before, don't be taken in just by flashy graphics - many of the best games are still those with the least-flashy graphics. I would suggest that you try **LEMMINGS**, **CANNON FODDER**, **THE SECRET OF MONKEY ISLAND**, **KICK OFF II** and **STREET FIGHTER II** for the best in graphics and gameplay. However, don't forget that some games require certain machine types and amounts of memory. Page 6 back issues are an invaluable source of software reviews.

For serious software, the ST is both good and bad! Generally, printing is easier than on the 8-bit as you just load in a printer driver and away you go! No messing around with those dip-switches! Most programs print in a high resolution to give excellent quality print, even on a dot matrix printer. However, you may encounter a long pause whilst the program works out how to print the page in such a good-looking resolution!!!

Word processing on the ST is also both good and bad. ST word processors generally have more features available that their 8-bit counterparts (e.g. spell checkers, multiple font-styles on screen, etc.) but I personally still prefer word processing on the 8-bit, the 8-bit programs just have a nicer, more personal feel about them. Besides, some of the "important" features on the ST such as spell-checkers tend to be so slow that they aren't worth using anyway!

Desk-top publishing, or DTP, is something which is infinitely better on the ST than on the 8-bit. Programs such as **TIMEWORKS II** are very good and make designing a page as easy as ABC! The ST still doesn't rank as high as a PC for DTP but for a fraction of the price (and hassle of getting the program to actually work!), who cares! Once you've tried DTP on the ST you may never look at your 8-bit DTP programs in a good light again!

Spreadsheets generally appear to be better on the ST, probably due to the fact that a mouse can be used to quickly move from cell to cell. Databases are also good on the ST. Not necessarily better than on the 8-bit but just as good.

PD libraries are a source of valuable software ... games, utilities, even specialist interest disks (Star Trek fans may be in their element!). Give Page 6 a ring for details of their PD library - that alone may persuade you to but an ST!

Of course, you have got other applications which are possible on the ST ... sound sampling, midi, telecommunications, etc. I can't really say that I've had any experience in these fields but, if that's what you're really interested in, there will certainly be something to suit your needs! Be warned though - even with today's low software and hardware prices, investing in these areas could work out to be expensive indeed.

So, the million dollar question has to be "would I give up on my 8-bit in favour of my ST?". The answer would have to be a "no" but, then again, having tried the ST I'm not sure that I could easily give up on that either!!! I still prefer my 8-bit but the two computers complement each other so very well that both are worth having. Next time you're feeling a little low, why not consider buying an ST? After all, with TWO Atari computers you'll be showing interest in more Atari products at the same time than Atari have ever managed to!!! ●

# HOW DO THEY DO THAT?

## *James Mathrick asks a few questions that he hopes YOU can answer and Les Ellingham throws in a little of his meagre knowledge*

This column has not appeared for some issues, but I hope it has not been given up as a bad idea - it will provide a link between programmers, and will allow these programmers and their software (which may eventually end up in PD libraries!) to develop with help from others. Below are some questions which I have had some difficulty in answering, a couple of which I have already raised in a Mailbag letter, although I hope they are not discounted for this reason. I am in desperate need of answers to all these questions.

### How do you move the disk directory so that it cannot be read from DOS?

I was told that each sector has a separate header telling DOS which sector it is, so that when DOS looks for a sector, it works out the track number, and then searches the track for the relevant sector header. So, as a method of software protection, programmers placed identical headers at the start of every sector, therefore making it pot luck as to which sector DOS reaches first and displays.

Also, should the disk directory sectors be given a nonexistent or unknown header, then they would not be able to be read by DOS.

However, studying the Disks and DOS articles in previous issues, these make no reference to such a header - does this mean that the solution is purely hardware and not attainable through software?

*I think you are barking up the wrong tree with sector headers. Maybe other computers use this method but not the Atari which always stores the directory in sectors 360 onwards. It is in fact quite simple to change the position of the directory so that it can only be read by the DOS on the same disk and not by any other DOS. Somewhere among the millions of bits of paper at Page 6 is the precise answer to this question, but I can't find it! The method is something like copying the existing directory to a new location (of your choice) using a sector copier, locating that part of DOS that tells it where the directory is and changing this to the new location. Next you resave the modified DOS and then wipe out the old directory at location 360, by copying blank sectors on to it. I believe that the full technique was given in a book entitled Software Protection Techniques (or something similar). Has anyone got a copy, or know the answer to the problem?*

### How can you corrupt DOS 2.5 so as to make it accept illegal filenames?

One solution I was given is: Boot your DOS disk, then POKE 3818,0: POKE 3822,127. Then save the modified version of DOS by using option H to write out new DOS files. You can then use illegal filenames (including clear screen characters to stop directories being listed!)

However, the article from which I got this information neglected to state which version of DOS this was with and, as of yet, I have not managed to make it work, usually ending up with a DOS disk that crashed or locked up upon booting.

*The above solution applies to the original DOS 2.0. If you are using DOS 2.5, as almost everybody is, then the answer is POKE 3774,n1: POKE 3778,n2 where n1 is the low ATASCII value of the range of characters you want and n2 the high. Using 33 as n1 and 123 as n2 gives you the full range of punctuation, numbers and lower case letters for your filenames but you can use any numbers between 0 and 255 to include all control characters, or a limited number of control characters. You will need to experiment though as you may find problems, for instance including * and ? as acceptable filename characters will lose you the facility of using these as wildcards.*

*Once you have done the POKEs above you rewrite DOS using option H. There is no need to reformat the disk you have booted from as the new DOS will overwrite the old (but don't use your master copy!)*

### How can you perform various (audio-visual) tasks while loading programs?

I included this question in my last Mailbag letter - my best guess was that a new interrupt drive was set up. However this is pure guesswork.

### How can you maintain a steady screen display whilst replaying digitised sound?

As this usually produces large distortion in the sampled sound, I assume the distortion is due to the fact that the computer spends irregular amounts of time on its 'housekeeping' routines e.g. maintaining screen display, scanning keyboard etc. How to get round this I don't' know.

### How can you compress data?

Other than in standard text files where you can use one graphics character to represent a frequently occurring group of many characters, I am in serious need of algorithms to crunch picture and sound sample files.

*There are classic algorithms for compressing data and I'm sure that techniques applicable for other computers could be adapted for the Atari. In the meantime check out Andy Guillaume's Vertical Compression routine in this issue which may well help with graphics.*

* * * * * *

**Editor's comments:** *We tried to make this a regular column some time ago but nothing much came by way of answers or questions. I still think this is a good idea for a continuing dialogue in the magazine so if you know the answers to any of the above, please write them down for inclusion in the next issue. If you have any questions of your own, send them in. Someone has the answers. The truth is out there!*




# MOTIVATION

*Joel Goodwin shares a neat PMG machine code routine with you*

You're designing a great program. All you need is some nice player-missile graphics to complete it. But - sigh - you have to fight your way through all those POKEs and PEEKs to get anywhere. Nice horizontal motion ... but vertical motion is a joke. Well, hey! I might just have the thing for you! Let me introduce you to 'Motivation' a nice piece of machine language which allows you to focus on the graphics rather than all that programming.

## GETTING MOTIVATION

To use Motivation, you must include the Motivation initialisation subroutine in your own program. To get it up and running you have to do three things:

1. Decide which PM resolution you want. Set the variable RES to be 1 for single-line resolution or 2 for double-line resolution. (Remember that single-line is the finer one)
2. Reserve enough memory for the player-missile graphics. You know, the usual messing about with RAMTOP, memory location 106. When you've done that set the variable PMBASE to be the page number that the player-missile memory starts from.
3. GOSUB 10000



```
LR 9991 REM       MOTIVATION
VD 9992 REM      Joel Goodwin
TC 9993 REM  NEW ATARI USER - March '96
CO 9994 REM INITIALISE MOTIVATION
HB 9995 REM Inputs:
NS 9996 REM RES=resolution 1 or 2 for
JN 9997 REM single or double line
ER 9998 REM PMBASE=page number where
FJ 9999 REM PM memory begins
HH 10000 DIM MOT$(50),IMAGEADR(4),COLOUR(
   4),HPOS(4),VPOS(4),SIZE(4):RESTORE 100
   00
NE 10010 RES=3-RES
AT 10020 FOR I=1578 TO 1781:READ B:POKE I
   ,B:NEXT I:POKE 1586,16*RES-4
LL 10030 FOR I=1 TO 50:READ B:MOT$(I)=CHR
   $(B):NEXT I
QQ 10040 IF RES=1 THEN LO=128:HI=PMBASE+1
JW 10050 IF RES=2 THEN LO=0:HI=PMBASE+3
PU 10060 FOR I=0 TO 4:COLOUR(I)=704+I:SIZ
   E(I)=53256+I:HPOS(I)=1557+I:VPOS(I)=15
   62+I:IMAGEADR(I)=1567+I*2
ZE 10070 POKE IMAGEADR(I),42:POKE IMAGEAD
   R(I)+1,6:POKE 1551+I,0:NEXT I:COLOUR(4
   )=711:SIZE(4)=1577:POKE SIZE(4),0
NE 10080 POKE 1544,(LO=0)*(256-LO)+LO-1:P
   OKE 1545,HI:ADDR=LO+HI*256:FOR I=0 TO
   3
RO 10090 LO=LO+128*RES:IF LO=256 THEN LO=
   0:HI=HI+1
LC 10100 POKE 1536+I*2,(LO=0)*(256-LO)+LO
   -1:POKE 1537+I*2,HI:NEXT I
MN 10110 I=USR(ADR(MOT$),ADDR,(PMBASE*256
   +1024*RES)-ADDR):POKE 54279,PMBASE:HAL
   T=1579:RETURN
JN 10119 REM  MOTIVATION VBI
MS 10120 DATA 0,0,162,4,173,47,2,9,0,141,
   47,2,141,0,212,169,3,141
DY 10130 DATA 29,208,173,111,2,9,16,141,1
   11,2,141,27,208,173,43,6,240,3,76,98
SB 10140 DATA 228,173,41,6,10,10,13,41,6,
   10,10,13,41,6,10,10,13,41,6,141
OE 10150 DATA 12,208,172,41,6,185,242,6,1
   41,20,6,138,10,168,24,189,10,6,121,0
QH 10160 DATA 6,141,139,6,185,1,6,141,140
   ,6,189,15,6,240,9,168,169,0,153,255
FU 10170 DATA 255,136,208,250,138,10,168,
   189,21,6,224,4,240,5,157,0,208,208,22,
   141
ND 10180 DATA 7,208,24,109,20,6,141,6,208
   ,109,20,6,141,5,208,109,20,6,141,4
MP 10190 DATA 208,24,109,26,6,157,10,6,12
   1,0,6,141,231,6,185,1,6,141,232,6
BG 10200 DATA 185,31,6,141,228,6,141,219,
   6,185,32,6,141,229,6,141,220,6,173,255
IP 10210 DATA 255,157,15,6,168,240,9,185,
   255,255,153,255,255,136,208,247,202,16
   ,128,76
KP 10220 DATA 98,228,2,4,2,8
JC 10229 REM  MOT$ DATA
ZM 10230 DATA 104,104,133
OS 10240 DATA 208,104,133,207,104,73,255,
   133,206,104,73,255,133,205,230,205,208
   ,2,230,206
UW 10250 DATA 169,0,168,145,207,200,208,2
   ,230,208,230,205,208,245,230,206,208,2
   41,169,7
DI 10260 DATA 162,6,160,44,76,92,228
```

Underline = INVERSE CHARACTERS · [ ] = CONTROL + CHARACTER · < > = INVERSE CONTROL + CHARACTER

After your program has finished step (3) then it is ready to use some motivated player-missile graphics.

Okay, I lied about the missile graphics. But it's not all bad. What Motivation does is turn the four missiles into one player, so you don't have four missiles but you do have five players!

So how do you use these five players? Well Motivation has set up some variables which makes all that memory map checking a thing of the past. All you do is POKE through the variables, like thus:

150 POKE HPOS(0),100

This would give player 0 a horizontal posi-

tion of 100. Or:

```
225 POKE SIZE(4),3
```

This would give player 4 quadruple width. The number in brackets is always the player number, from 0 to 4.

Here is the list of all of the variables Motivation sets up for you to use, where p is the player number.

| | |
|---|---|
| **HPOS(p)** | Horizontal position |
| **VPOS(p)** | Vertical position |
| **SIZE(p)** | Size (width) 0=normal 1=double 3=quadruple |
| **COLOUR(p)** | Colour |
| **IMAGEADR(p)** | Two-byte image address |
| **HALT** | Halt flag (special, see later) |

But let's discuss exactly how you would go about putting some players onto the screen.

# MANIPULATING THE PLAYERS

First thing you have to do is give a player an image. The best way of doing this with Motivation is put the image into a string. Now say we wanted to have a player in the shape of an 'A'. Well, the data for an A could be:

```
350 DATA 24,60,102,102,126,102
```

And this is what we would actually do:

```
300 DIM A$(7)
310 FOR I=1 TO 7:READ D: A$(I)
=D: NEXT I
320 DATA 6,24,60,102,102,126,102
```

The important point is that Motivation looks for the first byte to tell it how much graphics data there is. So here we have said that the 'A' shape has 6 bytes of graphics.

How would we give a player this shape? We need to work out the address of the shape in memory. We would do this by the following set of commands:

```
330 IMAGE=ADR(A$):HI=INT
(IMAGE)/256:LO=IMAGE-HI*256
```

This has converted the image address into the standard two-byte form of an address. We would then pass on the image to Motivation. For instance, for player 3:

```
340 POKE IMAGEADR(3),LO:POKE
IMAGEADR(3)+1,HI
```

Then we could POKE HPOS(3) with the horizontal position, VPOS(3) with the vertical position, SIZE(3) with the size and COLOUR(3) with the colour. And that is all there is to using Motivation.

# I LIED AGAIN!

Motivation is essentially a Vertical Blank Interrupt (VBI). What this means is that Motivation is activated every 1/50th of a second and it proceeds to check all of the inputs from the programmer through HPOS(x), VPOS(x) and so on.

The problem is that because it works so fast, and BASIC works so slow, you might end up with Motivation being activated when you have only POKEd the one-half of an image address (recall that you have to do make two POKEs to set an image address). This means there will be an unsightly flash of garbage on the screen when you are POKEing an image address.

There are two solutions to this. One is that you should only change image addresses when players are off screen (i.e. when you have POKEd HPOS(x) with 0). This is fine but means animation cannot be achieved by POKEing the image address - you would have to physically change the image data.

The second solution which is in-built into Motivation is the HALT flag. You can effectively turn Motivation off while POKEing an image



```
EX 1 REM ##################################
IR 2 REM #     MOTIVATION DEMO 1          #
ZL 3 REM #      by Joel Goodwin           #
HB 4 REM # ------------------------------ #
DV 5 REM # NEW ATARI USER -MARCH '96      #
FC 6 REM ##################################
NM 7 REM
QD 50 RES=2:PMBASE=PEEK(106)-4:POKE 106,P
  MBASE-1:GRAPHICS 0:POKE 710,18:POKE 75
  2,1:?
ME 60 GOSUB 10000
XF 70 DIM IMAGE$(17):? :? :? "[ESC,TAB]
   Move the joystick!"
IH 80 RESTORE :FOR I=1 TO 17:READ D:IMAGE
  $(I)=CHR$(D):NEXT I
RD 90 IMADR=ADR(IMAGE$):HI=INT(IMADR/256)
  :LO=IMADR-HI*256
GA 100 H=100:V=50:POKE COLOUR(0),150:POKE
   SIZE(0),3
WJ 110 POKE HALT,1:POKE IMAGEADR(0),LO:PO
  KE IMAGEADR(0)+1,HI:POKE HPOS(0),H:POK
  E VPOS(0),V:POKE HALT,0
KZ 120 POKE HPOS(0),H:POKE VPOS(0),V
PS 130 S=STICK(0):IF S=14 THEN V=V-(V>16)
  :GOTO 120
CW 140 IF S=13 THEN V=V+(V<96):GOTO 120
MN 150 IF S=11 THEN H=H-2*(H>48):GOTO 120
GS 160 IF S=7 THEN H=H+2*(H<176):GOTO 120
NB 170 GOTO 130
MI 200 DATA 16,129,129,153,153,189,189,25
  5,255,255,255,189,189,153,153,129,129
MV 9991 REM          MOTIVATION
MI 9992 REM  Joel Goodwin - June 1995
KJ 9993 REM
VZ 9994 REM  INITIALISE MOTIVATION
HB 9995 REM Inputs:
NS 9996 REM RES=resolution 1 or 2 for
JN 9997 REM single or double line
ER 9998 REM PMBASE=page number where
FJ 9999 REM PM memory begins
HH 10000 DIM MOT$(50),IMAGEADR(4),COLOUR(
   4),HPOS(4),VPOS(4),SIZE(4):RESTORE 100
   00
NE 10010 RES=3-RES
AT 10020 FOR I=1578 TO 1781:READ B:POKE I
   ,B:NEXT I:POKE 1586,16*RES-4
LL 10030 FOR I=1 TO 50:READ B:MOT$(I)=CHR
   $(B):NEXT I
QQ 10040 IF RES=1 THEN LO=128:HI=PMBASE+1
JW 10050 IF RES=2 THEN LO=0:HI=PMBASE+3
PU 10060 FOR I=0 TO 4:COLOUR(I)=704+I:SIZ
   E(I)=53256+I:HPOS(I)=1557+I:VPOS(I)=15
   62+I:IMAGEADR(I)=1567+I*2
ZE 10070 POKE IMAGEADR(I),42:POKE IMAGEAD
   R(I)+1,6:POKE 1551+I,0:NEXT I:COLOUR(4
   )=711:SIZE(4)=1577:POKE SIZE(4),0
NE 10080 POKE 1544,(LO=0)*(256-LO)+LO-1:P
   OKE 1545,HI:ADDR=LO+HI*256:FOR I=0 TO
   3
RO 10090 LO=LO+128*RES:IF LO=256 THEN LO=
   0:HI=HI+1
LC 10100 POKE 1536+I*2,(LO=0)*(256-LO)+LO
   -1:POKE 1537+I*2,HI:NEXT I
MN 10110 I=USR(ADR(MOT$),ADDR,(PMBASE*256
   +1024*RES)-ADDR):POKE 54279,PMBASE:HAL
   T=1579:RETURN
JN 10119 REM  MOTIVATION VBI
MS 10120 DATA 0,0,162,4,173,47,2,9,0,141,
   47,2,141,0,212,169,3,141
DY 10130 DATA 29,208,173,111,2,9,16,141,1
   11,2,141,27,208,173,43,6,240,3,76,98
SB 10140 DATA 228,173,41,6,10,10,13,41,6,
   10,10,13,41,6,10,10,13,41,6,141
OE 10150 DATA 12,208,172,41,6,185,242,6,1
   41,20,6,138,10,168,24,189,10,6,121,0
QH 10160 DATA 6,141,139,6,185,1,6,141,140
   ,6,189,15,6,240,9,168,169,0,153,255
FU 10170 DATA 255,136,208,250,138,10,168,
   189,21,6,224,4,240,5,157,0,208,208,22,
   141
```

Underline = INVERSE CHARACTERS · [ ] = CONTROL + CHARACTER · < > = INVERSE CONTROL + CHARACTER

address. You would use

400 POKE HALT,1

to tell Motivation to stop. Then you would POKE your image address, for example

410 POKE IMAGEADR(4),LO:POKE IMAGEADR(4)+1,HI

and then you would tell Motivation to continue again by using

420 POKE HALT,0

You may find these extra couple of POKEs slow things down a little and so it is up to you which approach you take.

Note that when Motivation is stopped it does not mean all of the players will disappear. All it means is that players will not be updated (position, size etc.) until you turn it back on.

```
ND 10180 DATA 7,208,24,109,20,6,141,6,208
   ,109,20,6,141,5,208,109,20,6,141,4
MP 10190 DATA 208,24,189,26,6,157,10,6,12
   1,0,6,141,231,6,185,1,6,141,232,6
BG 10200 DATA 185,31,6,141,228,6,141,219,
   6,185,32,6,141,229,6,141,220,6,173,255
IP 10210 DATA 255,157,15,6,168,240,9,185,
   255,255,153,255,255,136,208,247,202,16
   ,128,76
KP 10220 DATA 98,228,2,4,2,8
JC 10229 REM  MOT$ DATA
ZM 10230 DATA 104,104,133
OS 10240 DATA 208,104,133,207,104,73,255,
   133,206,104,73,255,133,205,230,205,208
   ,2,230,206
UW 10250 DATA 169,0,168,145,207,200,208,2
   ,230,208,230,205,208,245,230,206,208,2
   41,169,7
DI 10260 DATA 162,6,160,44,76,92,228
```

Underline = INVERSE CHARACTERS · [ ] = CONTROL + CHARACTER · < > = INVERSE CONTROL + CHARACTER

## OTHER THINGS WORTH KNOWING

Refrain from POKEing any of the player-missile memory locations. Use Motivation's POKE variables e.g. HPOS, VPOS, SIZE. You are allowed to POKE the priority register, 623, but you will find that the bit corresponding to "turn the four missiles into a fifth player" is permanently on. You can also POKE the SDMCTL register, 559, but there you will find the relevant bits which activate the players are permanently on. It is best to POKE to 559 as if player-missile graphics are not in use. For example:

POKE 559,0 - turn off screen
POKE 559,34 - turn on screen

One thing Motivation does not interfere with is the collision detection mechanism. You can still POKE to HITCLR (53278), and PEEK the collision detection registers as normal. Just remember that the four missiles are now one player, player 4.

Talking about the four missiles as one player, you will need to bearin mind that the colour of player 4 is the same as the colour of playfield 3. That is, if you POKE COLOUR(4) then you are actually POKEing direct to location 711, i.e. just like using a SETCOLOR 3,x,y command.



You can also POKE directly to the player-missile memory. There is nothing "illegal" about this but be warned that Motivation will not care for anything you smuggle in through the back door.

Motivation uses nearly all of page 6 of memory, only locations 1782-1791 are free. Also, when initialising, Motivation will use memory locations 205-206 but once it is up and running these locations are free for your program to use.

Motivation works by erasing old player images and drawing new ones constantly. If you have very large images you may find that your program begins to slow down. This is one price you have to pay for Motivation's simplicity.

## THE LAST WORDS

There are two demo programs. The first is a simple one designed so that you can read the program to help you get to grips with Motivation. All it does is move around a large player using joystick input.

The second is ... well, a bit of fun really.

Motivation isn't perfect but I'd guess that it's a damn sight easier than setting up player-missile graphics from scratch. I hope you think so too.

***NOTE:* Listing 2 is too long to include in the magazine and is therefore on this issue's disk as a ready to run program. It is also available as a Typo-coded printed listing on request.**

## A SUMMARY OF THE PROCEDURE

1. Put RES=1 or 2 for single or double-line resolution.
2. Reserve memory for the player-missile graphics. Set the variable PMBASE to be the page number that this memory starts from.
3. GOSUB 10000 to initialise Motivation.

To give a player an image, put the image data into a string but the first byte of the string must be the number of graphics data bytes there are. The address of this string must be divided into its LO and HI parts which must be POKEd into IMAGEADR(p) and IMAGEADR(p)+1 respectively, where p is the player number.

Other characteristics can be set by POKEing HPOS(p), VPOS(p), SIZE(p) and COLOUR(p).

To avoid garbage flashes when setting an image address, POKE HALT with 1 before setting the image address, and POKE with 0 when finished.

# Features and OPINIONS

# A GLORIOUS FUTURE?

## *Is James Mathrick dreaming or could there really be a future for Atari?*

Those who read the special report from Les in the March/April edition, about the Atari Time Machine may have classed it as a space filler, a trip into the fantastic by an over-worked editor, or an elaborate April Fool Practical Joke. Or, if you believed it, you may have agreed, that due to Atari's incompetence, it had no future. Let me tell you, it does, or did, or will, because I have been there and I have returned from the future with a story to tell.

*For some time ........* the Atari 8-bitters had been left in the lurch, left to fend for themselves and provide their own support. Thus, they had become a super-race of programmers, but still had not the recognition this deserved.

In early 1996, the editor of the world's oldest and best dedicated 8-bit magazine sat down and wrote an article, a mere trip into the fantastic about an Atari Time Machine.

*Some distance away ....* in the Tramiel household, Jack spluttered noisily over the breakfast table. He calmed down, placed his bank statement back on the pile of junk mail, and started to mop up the champagne that was now dripping off the side of the table.

His eldest, Sam, thundered down the stairs and bounded into the dining room, flinging open the door and causing the junk mail to fly around the room.

"Grow up" muttered Jack. "you're over forty", leaning over to retrieve the letters from the floor.

"Dad, you know British Rail ..." whined Sam.

"Son, I'm not getting you any more companies" muttered Jack, regaining the last of his mail. "Especially considering the situation." He slid the bank statement across the table to Sam, who studied it with some difficulty.

"So, er .. this is bad then?" guessed Sam.

Jack nodded silently and munched thoughtfully on his smoked salmon. Things had got bad, and they might get worse. Money was a scarce commodity and purse strings would have to be controlled. Hell, he might have to sell some of his houses, and the yacht would have to be history.

The butler brought in more food, and Jack rummaged around in the junk mail, and found a diamond in the rough - a one-off subscription to the resource for the Atari . Classic and Atari ST. He slid open the envelope, and slid out the magazine, pausing to quietly admire the quality appearance from pink cover to pink cover. He sighed slightly at the insults thrown at him from the back cover, but then again, he'd got used to them a long time ago. His mind wandered as he flicked through the magazine, revering the sheer grittiness and perseverance of the publishers and contributors to continue carrying the Atari torch. What he needed, he thought, was inspiration, in order to stop Atari PLC from collapsing.

His eyes fixed suddenly on an article. It's title read "ATARI SAVED!". He scanned over the various insults, and then sat back, picking the caviar from his teeth and considering the idea. Time travel. Wow!

Twenty seven seconds later, he had a headache, and needed help working stuff out. He called the butler over and whispered to him. Sam sucked loudly at his champagne through his straw.

The butler wheeled over a computer, the letters "ATARI 800XL" gleaming on a metal plate on the keypad. Jack looked quizzically. He had never really been a computer man, but he'd had this computer since at least Thursday, as someone had told him they were antiques. He waited.

"Jeeves, it's not doing anything."complained Jack.

The butler leant over.

"You might try the switch at the back, sir" muttered the butler.

Jack leant forward, eyeing the butler with distaste, and flicked the switch. He sat back, as the computer beeped, clicked, and fell silent.

Jeeves leant forward again."The keys, sir"

Five minutes, and thirty-three ERROR messages later, Jack got up and walked to the window. He needed help. He would also start saving money, too.

"Jeeves, get the car, I'm off to our thought-tank"

"The car has a puncture, sir"

"Damn it. Get another." ordered Jack. After all, Mercs weren't that expensive. Computers were though. Apparently.

*A few years later ........* Atari had long since folded. The Atari Time Machine project had stopped short due to lack of funds. In order to raise funds, Atari had sold the Time Travel software rights to Sega, who now owned three-quarters of the world's wealth. The software did the job, but barely, and didn't quite work completely on the Atari hardware - in fact, the time machine managed to eradicate itself and several large cities out of existence, and therefore never actually existed at all.

It was about this time that a programmer, driven insane by the infinite variations and add-ons of modern PCs, released two deadly viruses into the world. One was a computer virus, transferred by the Internet and disks, that eventually led to the simultaneous collapsing of every Internet link in the world. The second, more deadly, virus, attacked more organic systems, humans in fact.

It was a variation of the 'flu virus, which synthesised nitroglycerine and stored it in a purpose-constructed vacuole, which was then ignited by a high output of metabolic energy when the virus died. The result of this, due to the quick spreading of the virus throughout society and the human body, was that almost everybody in the world spontaneously exploded. Almost everybody.

The long-suffering and gritty Atari classic programmers appeared to be immune to both viruses. The computer virus immunity was easy to explain, as no commercial software passed between the superior machines any longer, and very few were connected to the Internet. The biological virus immunity, however, was harder to explain, but was attributed mainly to the high caffeine levels in the blood (from obscene amounts of cold coffee taken in late at night) and the semi-cataleptic state this, and very late nights in front of long

programs, produced.

Because of this, the world was devoid of all technology, (as even toasters were linked up to the Internet in those days) and human life, except for the Atari programmers and their trusty 8-bits. They, too, would have died out also, if one of their number had not discovered a top secret military coffee mine, which sustained their semi-conscious existence from then on.

One of them, called Mykl, one day uncovered the plans for the Atari Time Machine on a PD disk, aptly labelled 'Diversions'.

The programmers, well used to fitting memory upgrades and such like, managed to reconstruct the machine and correct the software for it. One of their number, namely me, was volunteered to take the one-way trip back to the twentieth century to warn of the impending disaster.

I would have gone back then, but by some freak of nature, it started to rain cold coffee. In the year-long burst of hyperactivity and twitching that followed, the programmers managed to repopulate the world.

The world is now (then?) a utopia of Atari 8-bit programmers, where all software and hardware is fully compatible, and where quality software is commonplace.

I came back, reluctantly, three years after then, and my message is this. We have a glorious future - if you stick by your machine and by your principles, you will survive when the world collapses. We can make the world a better place. Remain faithful, and carry on believing.

................ OK, so maybe it may not happen exactly like that (God knows, it may have already), and I may not have exactly time travelled back from the future, but this little bit of fantasy does go to show the sheer quality of us Atarians. How many non-Atarians out there can program their computers? How many know the inner workings of their computer? How many even know what the 'K' rating means? Not as many as 8-bit owners, I would guess.

The software coming out for the Atari at the moment pushes it beyond its limits and capabilities - how many PC programmers can claim that of their software? It may be true that only when one is restricted (in terms of capabilities of the hardware) and discovers one's limits, can one be truly free and produce high-quality results. Modern PC programmers are lost in almost limitless memory and hardware, and never have to juggle with capacities and capabilities, and the result is ANOTHER mediocre (in respect to the potential of the machine) blat-em-up arcade game.

How many commercial text adventures do you see on PCs? A program where you actually have to know how to READ and THINK without having to rely on itchy trigger fingers? Not many, again.

Because of the restrictions and compromises of the Atari, the Atarians have become a better quality of person - when they encounter a problem or impossibility, they will find a way around or under it and produce the result they want, without necessarily sticking more memory in the machine or upgrading their soundblasters - compromise without loss. And so, we become more adaptable and resourceful. So hang in there - we are the master race.

To be fair, we haven't got everything going for us. Years ahead, when scientists are struggling to create artificial intelligence, we Atarians will know that Atari created it in the early '80s in the 8-bits. How else do you explain the computer locking up in exactly the same point in a program again and again when it gets bored? Or the computer scrambling a particular file it doesn't like, or it throwing up random errors when its not happy with your DLIs? I blame artificial intelligence, although again, it instills us with patience and perseverance, adding to our sheer quality.

So we are not part of a computer ring, but more of a religion, a small group of elite programmers. The worshippers, I reckon, can be separated into two groups - the thinkers and the programmers.

The thinkers are those with the ideas - grand and incredible plans for software and games, ideas, which, to be quite frank, the non-Atarians lack. (Let's face it, if they're not open-minded enough to have an 8-bit, how great can their mind be?) They may also have ideas about how to improve programming, and get round those little niggles that have prevented great things happening on the Atari. Whatever the ideas, the thinkers lack the necessary programming knowledge or feeling to implement these ideas. I, myself, belong to this group, although, through great perseverance, my programming capabilities are advancing in leaps and bounds.

The second group is the programmers - those with the natural feeling for programming, who can basically take an idea and make it a reality, given enough cold coffee and an assembler, compiler or whatever. They do, however, lack the divine inspiration of the thinkers, and spend their time improving existing programs or upgrading previous ideas.

There are the rare few, the thinker-programmers, who have the ideas, and the means to make them real. If you are one of these, and you have not yet produced any software for the numerous PD collections, WHY NOT? You are letting the Atari slip quietly out of existence, so start coding!

For the rest of us, the less gifted, who fall into either of the categories, the solution seems simple - let's combine talents - stop being separate units of Atari users, watching the few thinker-programmers striving to keep the Atari alive, and become a single Atarian organism.

The problem is how to achieve this. Small Atarian communities have set up, e.g. Aura, WFMH, Hardsoft etc. and have produced quality software. Surely in the scattered thousands of users out there, there are thinkers and programmers in close enough proximity to produce software.

Otherwise, extend the 'How do they do that?' column into a sort of Programmer's challenge - send in your problems with programming, and let others help you out.

Also, other than offering yourself as a pen pal, a thinker and programmer contact service could be set up. Surely the thinkers out there have had ideas for software, but have thought them stupid or impossible ideas - let the programmers decide whether they are impossible. Likewise, the programmers out there would surely like a challenge or problem, but have thought their talent is useless, not good enough or wasted on a dying community. Snap out of it! Let's get together and make this world an 8-bittier place!

For those who claim to be of neither group, articles, hints and tips are well within your capabilities - even a letter to the Mailbag expressing your opinion of the Atari situation would help us Atarians - everyone has something which they can submit to Page 6 and/or similar 8-bit magazines.

Overall, it can be seen that a lot can still be done, and the possibilities can never end. If we all pulled together, the 8-bit can survive well into the next century.

***DISCLAIMER:*** Although the Tramiels were mentioned in the story, I do not wish to ridicule or embarrass them (or become engaged in a law suit) I think that they are all great guys, and that they all weigh their weight in gold. I would gladly shake any of them warmly by the left foot.

Should you wish to agree, disagree, comment, send words of support etc. or offer/exchange ideas/programming skills write either to Page 6 (address in front cover), or me, *James Mathrick, at 58 Whichers Gate Road, Rowlands Castle, Hants, PO9 6BB* ●




# HOLDSCREEN

*by John Foskett*

It is often a requirement, particularly with a utility program, to provide sub-menus with various ways of exiting. In most cases after selecting a potentially destructive function from a menu, a sub-menu is displayed giving the option to continue or exit perhaps by pressing RETURN or ESCAPE or even by pressing either 'Y' or 'N' for Yes or No. Sometimes a specific key, such as ESCAPE must be pressed to exit, maybe to exit from an error trap routine for example. When displaying instructions on screen, it may be more convenient to allow any key to continue, but a specific key such as BACK SPACE to allow a previous screen to be redisplayed or again ESCAPE to exit.

The machine code routine presented here performs these three functions, each of which is automatically determined by the number of parameters used in the call. The routine will hold the current screen until....

1. Either of two keys are pressed
2. A specific key is pressed
3. Any key is pressed

***A great routine to allow you to select specific keys to exit from a section of your program***

## USING THE ROUTINE

Each of the routine's three functions are described separately as follows....

### 1. EITHER OF TWO KEYS

The routine will exit only if either of two keys are pressed when using two parameters as follows....

KEY=USR(ADR(HOLD$),A,B)

Where 'A' and 'B' are the hardware codes for the chosen two keys required for exit. To determine which of the two keys were pressed, the routine returns a value of ONE to BASIC if the key representing the first parameter in the call is pressed and a ZERO if it is the second.

### 2. A SPECIFIC KEY

The routine will exit only if a specific key is pressed when using one parameter as follows....

KEY=USR(ADR(HOLD$),A)

Where 'A' is the hardware code for the specified key required to exit.

### 3. ANY KEY

The routine will exit if any key is pressed if used without any parameters as follows....



KEY=USR(ADR(HOLD$))

The hardware code for the key pressed is returned to BASIC so that the actual key pressed can be detected.

## SOME EXAMPLES

**KEY=USR(ADR(HOLD$),12,28)**

This would be used to hold the screen where either RETURN or ESCAPE is to be pressed to exit, all other keys being ignored. If RETURN is pressed, then KEY=1 because 12 is the hardware code for the RETURN key which is the first of the two parameters in the call. If ESCAPE is pressed, then KEY=0 because 28 is the hardware code for the ESCAPE key which is the second parameter in the call.

**KEY=USR(HOLD$),43,35)**

This is the same as above except that the routine only responds to the 'Y' and 'N' keys. 43 is the hardware code for 'Y' and 35 for 'N' and therefore KEY=1 only if the 'Y' key is pressed.

**KEY=USR(ADR(HOLD$),28)**

This is used to exit where a specific key is pressed, in this case the ESCAPE key because 28 is the hardware code for ESCAPE.

**KEY=USR(ADR(HOLD$))**

This would be used to hold a screen where any key is used to exit. If the key pressed was the SPACE-BAR, then KEY=33 because the hardware code for the SPACE-BAR is 33.

## HOW THE ROUTINE WORKS

There is only one extra memory location used in the routine which is the zero page location 203. If required, this may be replaced with any of the unused locations anywhere in RAM.

The first operation of the routine is to place a zero into locations 203 (PEEKADD), locations 212 and 213 and then to load the X register with 255 and store it in location 764 to cancel any key press that may exist. A value of 255 in location 764 means that no key has been pressed. The next operation is to remove the first parameter from the stack to determine which of the routine's three functions to perform. If the parameter was a zero, then control is passed to the ANY KEY section, but if it was 1, then control is passed to the SPECIFIC KEY section. If the value was greater than 1 (that is 2), then control is passed to the EITHER OF TWO KEYS section.

Apart from the start of the routine as described above, the routine is basically split into three separate sections, each of which is described separately. In order to understand the following descriptions, it is important to note that location 764 always stores the hardware code for the last key pressed.

### 1. EITHER OF TWO KEYS

This section first removes the two parameters from the stack and stores them in the X and Y registers respectively after which a loop (LOOP1) is entered where they are continually compared with the contents of location 764. If the contents of location 764 is equal to the contents of the X register then the loop is exited via the label EXIT1, but if it equals the contents of the Y register, then the loop is exited via the label EXIT2. Since loca-

```
HY 10 REM *****************************
YV 20 REM *        HOLD SCREEN        *
IM 30 REM *   A MACHINE CODE ROUTINE  *
CT 40 REM * WITH DEMONSTRATION PROGRAM *
CU 50 REM *---------------------------*
TC 60 REM *  BY JOHN FOSKETT   SEP'96 *
RD 70 REM *      FOR NEW ATARI USER   *
IF 80 REM *****************************
EQ 90 DIM HOLD$(67)
SG 100 HOLD$=")[,]<E>K<E>T<E>U"
   [ESC,INSERT]<N>i[B]hp&I[A]p[Y]hh*hh
   <1|[B] p[G]L|[B]p[H]Pt)[A]<E>K<E>T[.]
   hh*1|[B]P<;>[.]1|[B]p<;>-|[B]<E>
   K<E>T[.]"
QO 110 REM
QQ 120 REM
FS 130 REM  DEMONSTRATION PROGRAM
AS 140 GRAPHICS 0:POKE 16,64:POKE 53774,6
   4:POKE 752,1
KQ 150 ? "[ESC,CLEAR]  HOLD SCREEN MACHIN
   E CODE ROUTINE":? "[ESC,TAB][ESC,TAB]W
   RITTEN BY":? "[ESC,TAB][ESC,TAB]
   [ESC,LEFT]JOHN FOSKETT"
NX 160 ? :? :? :? "SELECT OPTION REQUIRED
   ....":? :? :? "1. PRESS EITHER OF TWO
   KEYS TO EXIT"
JN 170 ? :? "2. PRESS ONE KEY TO EXIT (ES
   CAPE)":? :? "3. PRESS ANY KEY TO EXIT"
CB 180 POKE 764,255:OPEN #1,4,0,"K:":GET
   #1,K:CLOSE #1:K=K-48:IF K<1 OR K>3 THE
   N 180
CF 190 POSITION 9,5:? " THIS IS EXAMPLE T
EXT "
KW 200 FOR I=6 TO 18:POSITION 2,I:? "AAAA
   AAAAAAAAAAAAAAAAAAAAAAAAAAAAAA":? :?
   :NEXT I
TK 210 ON K GOSUB 250,340,400
EI 220 REM " Exit to Re-Run
VR 230 ? :? :? "PRESS  RETURN  TO RUN AGA
   IN[ESC,BELL]":POKE 764,255:I=USR(ADR(H
   OLD$),12):RUN
LC 240 REM ------------------------------
IJ 250 ? "PRESS  Y  OR  N  TO EXIT"
GY 260 I=USR(ADR(HOLD$),43,35)
BL 270 ? "[ESC,CLEAR]":? :? "YOU PRESSED
   THE ";
DV 280 IF I THEN ? "(Y)";
RR 290 IF NOT I THEN ? "(N)";
CR 300 ? " KEY":? :? :? "THIS WAS ACHIEVE
   D USING LINE....":LIST 260
KI 310 ? :? "WHERE....":? :? "43 IS THE H
   ARDWARE CODE FOR 'Y'":? "35 IS THE HAR
   DWARE CODE FOR 'N'"
ZD 320 RETURN
LB 330 REM ------------------------------
UP 340 ? "PRESS  ESCAPE  TO EXIT"
SG 350 I=USR(ADR(HOLD$),28)
LI 360 ? "[ESC,CLEAR]":? :? "THIS WAS ACH
   IEVED USING LINE....":LIST 350
RA 370 ? :? "WHERE....":? :? "28 IS THE H
   ARDWARE CODE FOR (ESCAPE)"
ZP 380 RETURN
LN 390 REM ------------------------------
YJ 400 ? "PRESS  ANY KEY  TO EXIT"
PW 410 I=USR(ADR(HOLD$))
EL 420 ? "[ESC,CLEAR]":? :? "THIS WAS ACH
   IEVED USING LINE....":LIST 410
VG 430 ? :? "THE HARDWARE CODE FOR THE KE
   Y YOU":? "PRESSED IS ";I
ZI 440 RETURN
```

Underline = INVERSE CHARACTERS · [ ] = CONTROL + CHARACTER · < > = INVERSE CONTROL + CHARACTER

tion 212, the low byte of the value for returning to BASIC has been previously zeroed, exiting via the label EXIT2 (where the match was with the Y register) returns a ZERO to BASIC. Exiting via the label EXIT1 (where the match was with the X register) returns a value of ONE to BASIC.

### 2. A SPECIFIC KEY

This section first removes the one parameter from the stack and transfers it into the X register which is then continually compared with the contents of location 764 within a loop (LOOP2). The loop is only exited when



```
UA 10 REM ***************************
RY 20 REM *        HOLD SCREEN      *
AI 30 REM *   MACHINE CODE ROUTINE  *
UQ 40 REM * CHARACTER STRING WRITER *
CP 50 REM * BY JOHN FOSKETT   SEP'96 *
UF 60 REM ***************************
FI 70 GRAPHICS 0:POKE 16,64:POKE 53774,64
   :DIM F$(14):F$="D:STRING.LST"
KF 80 POKE 752,1:? :? "CHARACTER STRING W
   RITER":? :? "PRESS START TO BEGIN"
PT 90 ON PEEK(53279)<>6 GOTO 90:? :? "WRI
   TING TO DISK - PLEASE WAIT":RESTORE :O
   PEN #1,8,0,F$
WM 100 REM  Write MC String
KW 110 ? #1;"100HOLD$=";CHR$(34);
AM 120 READ J:IF J<0 THEN 150
XY 130 ? #1;CHR$(J);:GOTO 120
BS 140 REM  End
GZ 150 ? #1;CHR$(34):CLOSE #1:? :? "FILE
   WRITTEN IN THE LIST FORMAT":? :? "FILE
   NAME: ";F$(3);"[ESC,BELL]":END
EE 160 REM  Machine Code String Data
BF 170 DATA 169,0,133,203,133,212,133,213
   ,162,255,142,234,2,104,240,38,201,1,24
   0,25,104,104,170,104,104,168,236,252
JG 180 DATA 2,240,7,204,252,2,240,8,208,2
   44,169,1,133,203,133,212,96,104,104,17
   0,236,252,2,208,251,96,236,252,2,240
ZO 190 DATA 251,173,252,2,133,203,133,212
   ,96,-1
```

location 764 contains the same value as the X register and when equal, the specified key has been pressed and the loop exits via RTS.

### 3. ANY KEY

The X register and location 764 was initially loaded with 255 at the start of the routine prior to entering this section where they are continually being compared within a loop (ANYKEY). The loop is only exited when location 764 does not contain 255 which results when ANY key is pressed. When the loop is exited, the value contained in location 764 is loaded into locations 203 and 212 for returning to BASIC.

## THE DEMO PROGRAM

The actual machine code routine is the string immediately below the REM header and the rest of the listing is the demonstration program.

The demonstration program is basically divided into 3 sections to demonstrate the routines three functions which are selected from the menu. The screen is filled with example text together with an exit prompt and uses the routine to hold the screen.

## COMPILER PROBLEMS

There is a small bug in the Turbo BASIC compiler which prevents the USR command from returning the correct value to BASIC via the equating variable. This problem is accommodated within the routine by loading the hardware code of the key pressed into location 203 as well as for returning to BASIC which can then be PEEKed in the normal way.

## TYPING THE MACHINE CODE STRING

Because of the difficulty involved with typing machine code strings, the second program has been included to write the string for you from a bank of numeric data. Simply run the program and press START after which the string will be written to disk using the file name "STRING.LST" in the LIST format. It is then a simple matter to ENTER the string from disk.

# THE ACCESSORY SHOP

# DISKS ... DISKS ...

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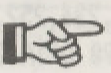
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**NINJA** ✓
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A challenging real life simulation which combines Pool and Snooker on the same cassette. An absolute must for both enthusiasts and beginners alike.

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**PLASTRON** ✓
Take your place in a small band of pirates out to steal fossil fuels from the biggest corporation in the galaxy.

**PROTECTOR** ✓
Assigned to the US Army Helicopter Training School your aim is to become the best chopper pilot in the West

**REVENGE II** ✓
The Mutated 90 foot high, laser spitting death camels have rebelled against their captors the Zzyaxians and are out for revenge! A Jeff Minter classic

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What more can be said. Probably the best computer game in the world - ever!

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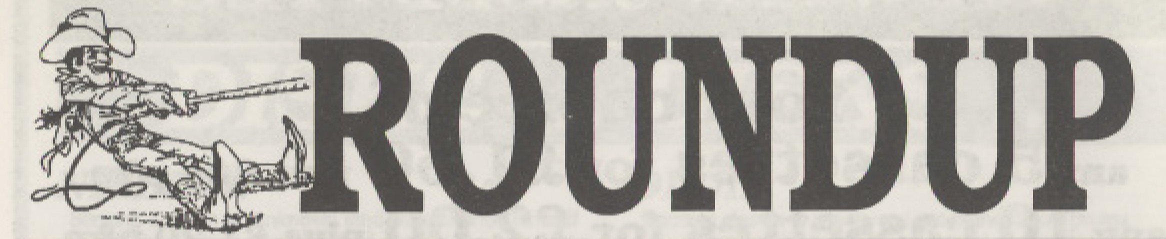
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Equipped with the latest in anti-gravity pods and Laser weaponry, battle your way through each of eleven dungeons

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Only seven seconds left to save the planet! Universal Hero has to save his skin and everybody else's by finding bits to repair a shuttle

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# ST PUBLIC DOMAIN



# ROUNDUP

*Hello there, and welcome to the ST PD Zone! If you've read the 8-bit section, you'll already know that I'm doing the column this time as Stuart is moving house! I must confess that I've given over to my gaming bias this issue and so I am bringing you reviews of two top-quality games. Without any more wittering, here are those reviews!*

## *THEY'RE COMING OUT OF THE GODDAM' WALLS!*

**ALIENS** (ST937) is, as the name suggests, a game based upon the film of the same name. The disk starts off with a very impressive demo incorporating digitised stills and sound clippets from the film, e.g. "There's nothing back here", "Look, I'm telling you, there's something moving and it ain't us!", etc. After this impressive start, the disk is accessed again and the main game screen appears.

Aliens is basically a semi-strategic arcade game, a little in the style of Hero Quest yet not shown from a true 3D perspective. The object of the game is to get your marines from the left hand side of the screen to the exit on the other whilst avoiding or killing the Aliens on the way. If you think this sounds simple, don't bet on it!!!

The majority of the screen is divided up into squares. Only one marine may occupy a square at a time, and each marine may only make one move at a time, be it aiming/shooting his weapon or moving, before control is taken of the next marine. After every marine has had two moves, the turn ends and the aliens get a chance to attack. Should they land on the same square as a marine, you may have time to shoot it dead before it kills the commando. On the other hand, you may not! Although you can shoot without aiming, aiming first (using up one of your turns) greatly increases the damage that is done.

Aliens is one of the most impressive PD games I have ever seen. Graphically, the game is very good. The aliens and marines are well drawn and, at the bottom of the screen is a digitised picture of whichever marine you are controlling. Also in this section are the marine'S name, health condition, weapon, firing range, etc. Depending on which weapon you have, the accompanying fire even changes - a lovely touch. Each weapon even has it's own digitised sound! Weapons include flame-throwers (great!), pistols, machine guns and shotguns!

The digitised sounds and graphics really make the game - at various intervals, marines shout things such as "move it!" and "they're closing in!". If you've seen the Alien films and enjoyed them, you'll love this as it captures the mood and atmosphere perfectly. If you haven't seen the films, buy this anyway and waste away those precious hours! Yes, it's truly excellent!!!

**by Kevin Cooke**

## *WHAT'S THIS ABOUT A GLASS BUTTOCK?!*

**GLASS BUTTOCK OF THARG** (ST993), hereafter referred to as GBOT, is yet another excellent game from the author of the "Grandad" series of games.

The story goes that many years ago on the island of Tharg, Queen Esmerelda suffered a nasty accident involving a goat, some soft cheese and an electric sander! Consequently, her left buttock was sliced off! To combat this problem, a witch from a neighbouring island was called in to make a new buttock from glass. When the Queen found that she kept sliding off of her throne, the witch was banished. However, before leaving the island she put a spell on the buttock which, when the Queen died, allowed it to take control of the whole island. Your task is to control 12 citizens of Tharg in an attempt to overthrow the buttock!

When the disk starts to load, you are greeted with a Tracker tune of some synth-style music. Soon enough, a screen appears from which you can either read the amusing background story and instructions or choose to go straight to the game.

The first game screen to appear is split vertically in half. The left half of the screen shows a map of the island whilst the right half shows pictures of your twelve characters; Mr Bean, Inspector Morse, Sheik Yerbouti, Jimmy Hendrix, Sergeant Wilson, Jeremy Beadle, Timothy Lumsden, Allan B'Stard, Kathleen Turner, Kim Bassinger, Captain Picard and, of course, Grandad himself! Each picture has been hand-drawn but incredibly well - many of them look as if they've been scanned (except Kim Bassinger who looks a bit like a bloke!!!). By clicking the pointer on any of these characters, you take control of them and the screen changes to a first-person perspective of that character's view. By clicking on the turn-left, turn-right and move forward arrows, you can walk your character around the island.

The characters start off on their own but, by visiting the various castles scattered around the island, more soldiers can be recruited to join the ranks. To help you with finding the castles, they are shown on the main map along with your character's own position.

Each character can make up to 20 moves per turn. After every character has moved or you choose to end the turn, the enemy soldiers get a chance to move around the island and attack you. Should you survive such an attack, you can either run away or choose to stay and fight.

Your eventual aim is to reach the castle on the North of the island but, as this game is only the shareware version, you have to register the game with the author to be granted access.

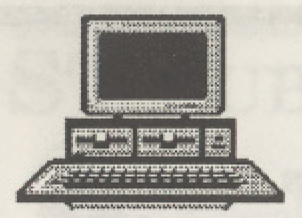
The graphics throughout the game are superb, from the pictures of your characters to the character's view of the island, everything is done in lots of humorous detail. The game mechanics also make it extremely easy to play - you hardly even need to read the instructions to be able to play it! The game was written in STOS so, if you're wondering what can be done with it, take a look at this!

The registration fee is only £5 and, to be honest, once you've played the game, I'm sure you'll want to register to get into the castle.

Overall, The Glass Buttock Of Tharg is another excellent game. The author should be proud of his efforts ... and his sense of humour, come to think of it!!! ●

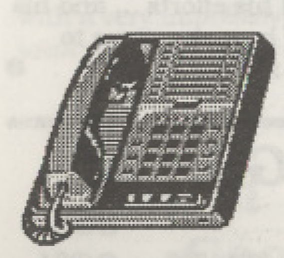
## *ROUNDUP RATINGS:*

| | |
|---|---|
| **ST937 - ALIENS** | **93%** |
| **ST993 - GLASS BUTTOCK OF THARG** | **89%** |



# JOURNEY INTO CYBERSPACE

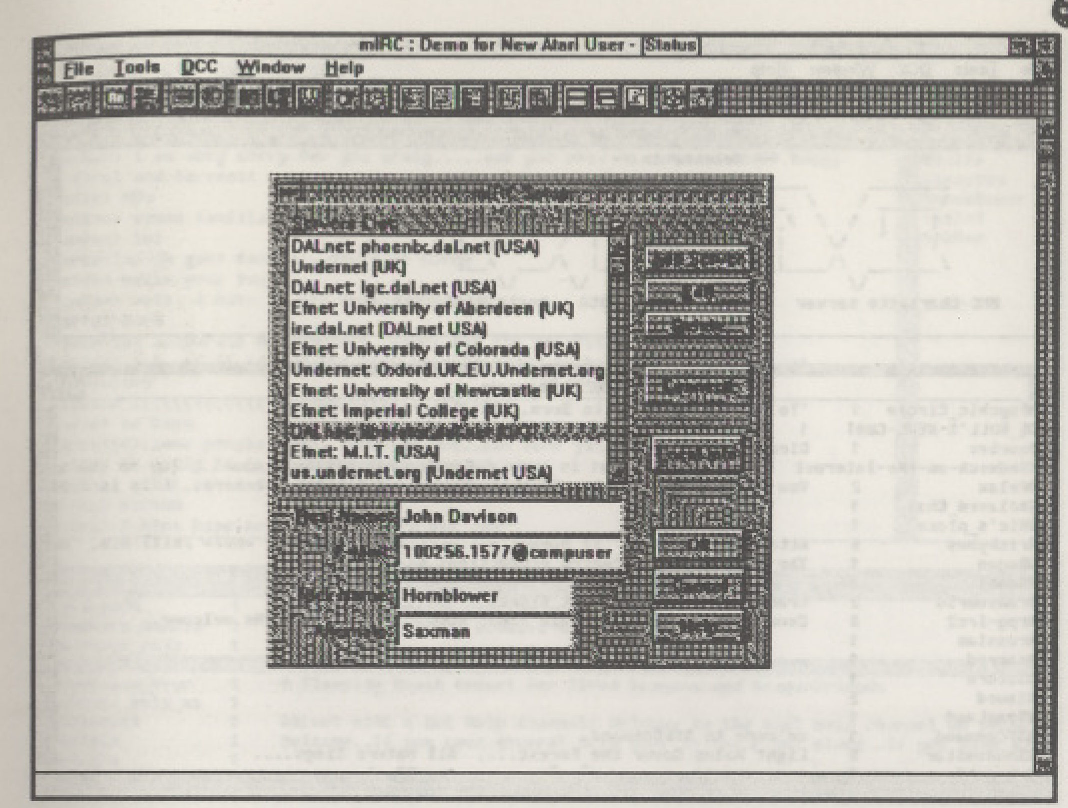
*John S Davison explores the Internet and discovers all the wonders of a brave new electronic world*



## JUST HAVING A CHAT

So far in this series we've looked at several ways people can communicate with each other via the Internet. For personal one-to-one communication we've discussed e-mail; for sharing your thoughts with groups of people we've looked at Usenet and its newsgroups; and we've examined the World Wide Web as a means of displaying information to the world at large. However, none of this takes place in real time - the activities are more like writing letters or displaying posters on a wall. Wouldn't it be nice if you could hold live conversations with people wherever they are on our planet - for the price of a local phone call? Well, you can - using **Internet Relay Chat** (IRC).

In concept it's similar to the real-time local "chat" facilities available (even to Atari users) via standard communications software on many bulletin board systems - but it works on a global basis. Unfortunately IRC needs special software and I've not yet found an Atari version anywhere. If you know of anything, please let me know and I'll publicise it here. I've included IRC in this series for completeness of coverage of Internet applications - and who knows, someone might yet produce an Atari IRC program. I currently use IRC via an IBM PC running a program called mIRC, with Internet connection via CompuServe.



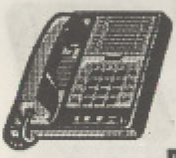

*Choosing an IRC server prior to connection*

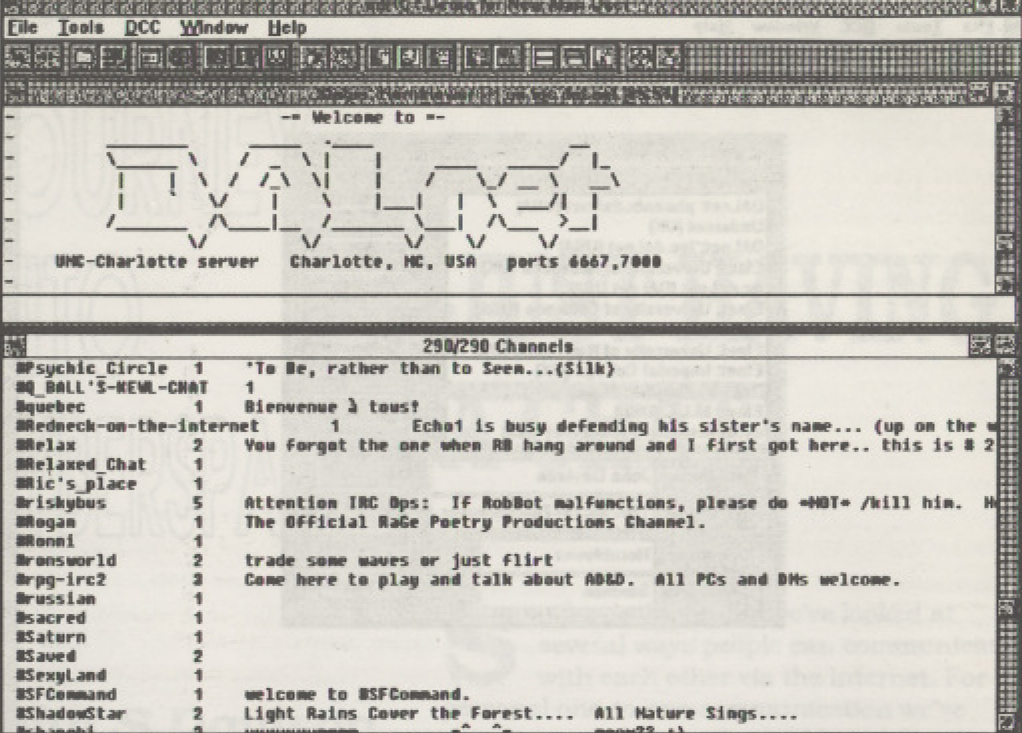
## MULTI-CHANNEL CHAT

IRC began life in Finland in 1988, and since then its use has spread across the world. It's a multi-user, multi-channel "chat" system allowing people to converse in real time via messages keyed in at their computer keyboards. It works via a world-wide network of IRC server systems all linked to the Internet. By connecting to one of them using an IRC client program you can gain access to the IRC "channels" it handles. A channel is a place in cyberspace where people can meet (a sort of virtual conference room), and each is usually devoted to a particular topic of conversation. You then "join" a selected channel, at which point you'll be in the company of like-minded people scattered all over the world. You'll see conversations taking place between them displayed right there on your computer screen - as they happen. You participate in the conversations simply by typing comments on your keyboard. Anything you type is immediately broadcast to everyone else on the channel and displayed on their screens, and they can respond accordingly.

IRC gained widespread fame in 1991 during the Gulf War. First hand news of the hostilities were broadcast live from the area by IRC users, while other users all around the world gathered on appropriate channels to hear about and discuss what was happening. A similar thing happened in 1993 in the coup against Boris Yeltsin, when eye-witnesses in Moscow gave live reports on the action there.

When you log onto a server you can request a list of the channels it's handling, and the server will display them on your screen. There are often hundreds of channels in use at any one time, so deciding which to join can be a problem in itself. If you're a complete IRC beginner (like me) it's probably best to find one of the "general" channels where you can just pop in for a friendly chat on any old topic with whoever you find there. These channels tend to have names like "hot tub" or have the word "cafe" or "bar" somewhere in their title.






*Listing showing some of the 290 channels available on the DALnet server in Charlotte, North Carolina*

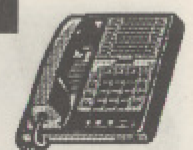
# BAD TASTE WARNING!

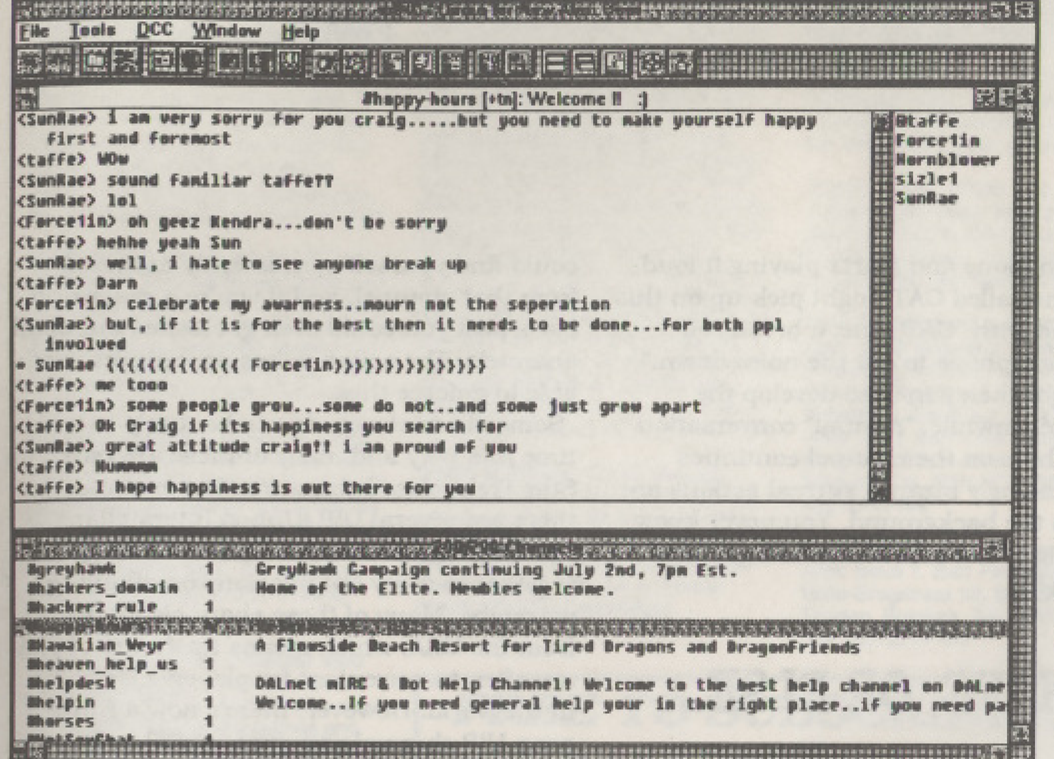
Much is made in the media of pornography on the Internet, but I've found that it's generally not that evident and doesn't really leap out at you as the Press would have you believe. Except on IRC, that is. When perusing a full channel listing you're likely to see channels with rather sick pornography related titles as well as others in pretty bad taste. You'll probably also experience foul language on some channels. So, if you're easily offended, you shouldn't use IRC. However, there are plenty of other good, wholesome channels, but if there's really nothing that appeals, you can even start your own channel.

Channel topics range from the deadly serious, through outrageously funny, to the downright weird, eccentric, and sick. I've even occasionally stumbled upon Atari related channels, but so far have found no-one logged into them. I guess they must belong to cyberspatial Atari clubs who meet there at specific times. Just because a channel is listed doesn't necessarily mean there's anyone actively using it at that time. It's possible to list only active channels, so you can quickly find someone to talk to.

You don't use your real name on IRC, but operate with a "nickname" instead. This can be anything, as long as no-one else is already using it. For instance, I sometimes use SAXMAN or HORNBLOWER (as one of my interests is playing saxophone). Your nickname appears on other users' screens as a prefix to anything you type in, so everyone knows who typed it. You'll be addressed by your nickname when anyone speaks to you directly. The nickname also enables other users to aim private messages directly at you, without other users seeing them, or even to invite you into a "private conversation" group with one or more other selected users. A further function available via private linking is to directly connect two users' computers together and transfer files between them.








*Conversation in progress on the "happy-hours" general chat channel*

# WATCH OUT, BOTS ABOUT!

There's something else to beware of in IRC - the "Bots" (short for roBots). These are like "automated characters" in adventure games, and are in effect simulated people, i.e. software creations that behave like real people. You can talk to them and they'll respond, often quite convincingly, so it's sometimes difficult to spot them. Eventually, though, they give themselves away by the nature of their responses. Bots are completely banned on some servers, while on others they have to be registered with the system operator.

Here's one little Bot anecdote - I arranged to meet two friends at a certain time in a Cybercafe channel on a particular server. We all logged on around the appointed time and were each greeted in turn by someone with the nickname WAITRESS, who fussed around making smalltalk and asked us what drinks we wanted to order! Entering into the spirit of things, one of my friends (no really, it wasn't me) happily "chatted-up" WAITRESS until someone else in the Cybercafe eventually pointed out that WAITRESS was a Bot, which caused much amusement at my friend's expense.

Going even further down this route, in the strange world of IRC you can be yourself, or pretend to be anyone or anything else you want and no-one will know the difference. Obviously, on the channels devoted to "serious" discussion you'd keep your own persona, but some of the wackier channels encourage totally eccentric behaviour and role-play. Sometimes this can even break out spontaneously on a normally sane "cafe" channel, perhaps using IRC's facilities to describe actions in the third person rather than just transmitting first person conversation.

For instance, I could generate a message on other users' screens saying "SAXMAN takes



out his saxophone and starts playing it loudly". Someone called CAT might pick up on this and respond with "CAT rams a bread roll down the saxophone to cut the noise down." Others might then join in to develop the situation. Meanwhile, "normal" conversation between others on the channel continues while increasingly bizarre, surreal actions are going on in the background. You never know what's going to happen, and it can get very entertaining.

## BEHAVE, OR ELSE...

It's also possible to trigger sound effects on other users' computers directly from your keyboard, which can also be amusing if used in moderation. On the other hand, you can easily annoy people if you're too disruptive and the channel operator could then kick you off the channel. If you're a real nuisance you could find yourself permanently excluded from that channel, and if you're a real world-class pest you could even get locked out of all channels. The software has procedures available to enforce this.

Some channels are devoted entirely to real-time role-play and many of these are based on Star Trek related scenarios. For example there are several UIP (United Interstellar Planets) channels where Trekkies can get together to carry out missions on simulated starships. Many of these channels are run from the USA, which means the hours of play are often inconvenient for players elsewhere in the world. However, there's now a European UIP channel with more suitable operating hours for the UK. Participants can choose their race (Human, Klingon, Vulcan, etc.) and position (science officer, helmsman, chief engineer, chief medic, etc.), then role-play improvised missions in real time via IRC. Now that's what I call creative use of technology! ●

## NAU INTERNET CONTACT LIST

The following is a list of NAU readers who'd welcome e-mail from other Atari users. If you'd like to be added to this list please drop me an e-mail note at the address shown.

| | |
|---|---|
| John S Davison | 100256.1577@compuserve.com |
| Derek Fern | derek@dfern.demon.co.uk |
| Joel Goodwin | j.f.goodwin@reading.ac.uk |
| Gordon Hooper | ua558@freenet.victoria.bc.ca |
| Fred Meijer | pokeyfm@worldonline.nl |
| Ann O'Driscoll | annod@iol.ie |
| Allan Palmer | 100644.1040@compuserve.com |
| Paul Rixon | p_rixon@oscarfab.demon.co.uk |
| Brad Rogers | brad@pianosa.demon.co.uk |
| Henning Wright | kofta@algonet.se |
| Bryan Zillwood | b.j.zillwood@exeter.ac.uk |



# contact ... contact ... contact ...

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**MODEM:** Misco Super Plus (approved for UK connection) complete with cable for connection to 850 interface plus telephone extension cable. Presumed working but never tested, hence "sold as seen" at £5 plus p&p. Tel. (01392) 431192 and ask for Kevin

**INTERFACE:** 850 interface with manual, PSU, IO cable and brand new cable allowing connection to a Centronics printer. I'm almost certain that it's working but as I've never tested it, "sold as seen" at £15 plus p&p. Tel. (01392) 431192 and ask for Kevin

**XE SYSTEM:** 65XE computer, XC12 tape recorder fitted with RAMBIT fast loader (10 minute program loads in 12 seconds!), 1029 printer and spare ribbon, some games, some programs, all on tape, user handbooks. Buyer collects or pays carriage. Price £60.00. Tel. Frank Atkin on 01329 319968 (Fareham)

**XL SYSTEM:** 800XL computer used for one hour only, almost brand new plus 1010 program recorder also used for one hour only, some games and programs. Complete with all power supplies and leads. Buyer collects or pays carriage. Price £30.00. Tel. Frank Atkin on 01329 319968 (Fareham)

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**130XE SYSTEM:** 130XE (boxed), 1050 disk drive, 1029 printer (boxed) with spare ribbon, all manuals, disks for Mini Office II and many others. Price £55 or near offer. Also Philips Green monitor, £30 o.n.o. Phone 01223 873076 (Cambridge)

## WANTED

**LAZER DISK:** Disk wanted to control 1050 Lazer chip. Please phone John on 01235 817670 or write to 15 Warner Crescent, Didcot, Oxon OX11 8JY

**VIDEO TITLE SHOP:** Has anyone got a copy of the Video Title Shop pack of disks for Atari XL/XE? Paul Bramley, 15 Parsloe Street, Bundaberg, Queensland, Australia 4670

**WARGAMES/SIMULATIONS:** Broadsides (SSI), Napoleon at Waterloo (Krenteck), Conflict in Vietnam (Microprose), Rome and the Barbarians (Krenteck), Excalibur (APX), Rails West (SSI). Bart Pleumeekers, Witte-Brugstraat 39, B-3800 Sint-Truiden, Belgium. Tel. /32/11674078. Fax /32/12747184

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*FOR SALE ... WANTED ... PEN PALS ... ADVICE ... HELP*

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